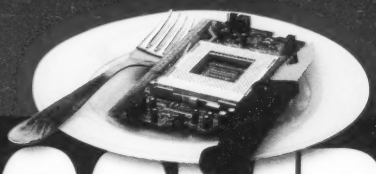

CAREER WATCH: Cisco plans a new certification for the 'top chefs' of network design. **PAGE 40**

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SPECIAL REPORT

Surviving The Big One

Companies hit hard by 9/11 and Katrina have recovered, but are they ready for what's next?

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The economy may be tanking. But a flood of H-1B applications is on the way. **PAGE 16**

THE GRILL: Former White House security czar Howard Schmidt talks about whether the U.S. can really stand up to foreign cyberattacks. **PAGE 19**

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Five problems that keep IT from speeding up its processes. **PAGE 21**

You, too, can beat Internet sabotage – like Martha Stewart's IT shop did. **PAGE 44**

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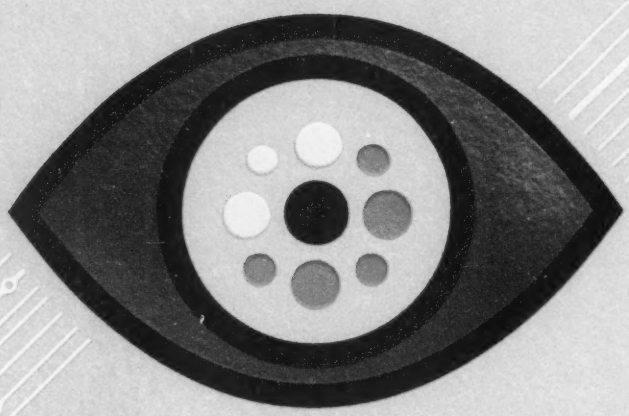

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8 Waste Management is **suing SAP** to recover more than **$100 million** in costs from a **failed ERP project.** | A former **programmer** was sentenced to **42 months in prison** for stealing a hard drive with **bank records** and using fake debit cards to withdraw money from accounts.

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19 The Grill: Howard Schmidt, a former White House security adviser, talks about mobile vulnerabilities, background checks for IT workers and fishing.

21 Bruce A. Stewart says IT can't just decide to speed things up. It must first address five core problems.

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COVER ILLUSTRATION BY WILLIAM DUKE

SPECIAL REPORT

Surviving The Big One

22 Events like 9/11 and Hurricane Katrina have brought disaster to IT's doorstep. But many companies are still applying old strategies to new disaster scenarios.

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These six organizations endured enormous disasters. What their IT teams learned about emergency preparedness came at a high price, yet those lessons have made them better prepared for what might happen next.

26 Hancock Bank. Its headquarters a complete loss after Hurricane Katrina, the bank started from scratch by building a rugged data center farther inland.

27 F.A. Richard & Associates Inc. Katrina wreaked havoc with telecommunications system throughout the Gulf Coast region, so this insurance firm took charge of its phone systems and now reroutes calls made to its toll-free numbers on its own.

30 Tulane University. Following Katrina, the university made paying its people a top priority. Paychecks were sent just a few days late. And now its payroll system is safer than ever.

31 Estes Express Lines. Hurricane Gaston soaked the trucking company's systems in four feet of wafer. Now Estes mirrors its data in sunny, dry Arizona.

32 Marriott International. Pin-to-pin communication and texting proved the most reliable ways to stay in touch during Katrina. So when Rita hit, the hotel's employees had already been briefed and were ready.

34 Hard Rock Hotel & Casino. Damage to cell phone towers left people disconnected after Katrina. The casino's disaster plans now specify places for employees to gather and figure out the next steps.

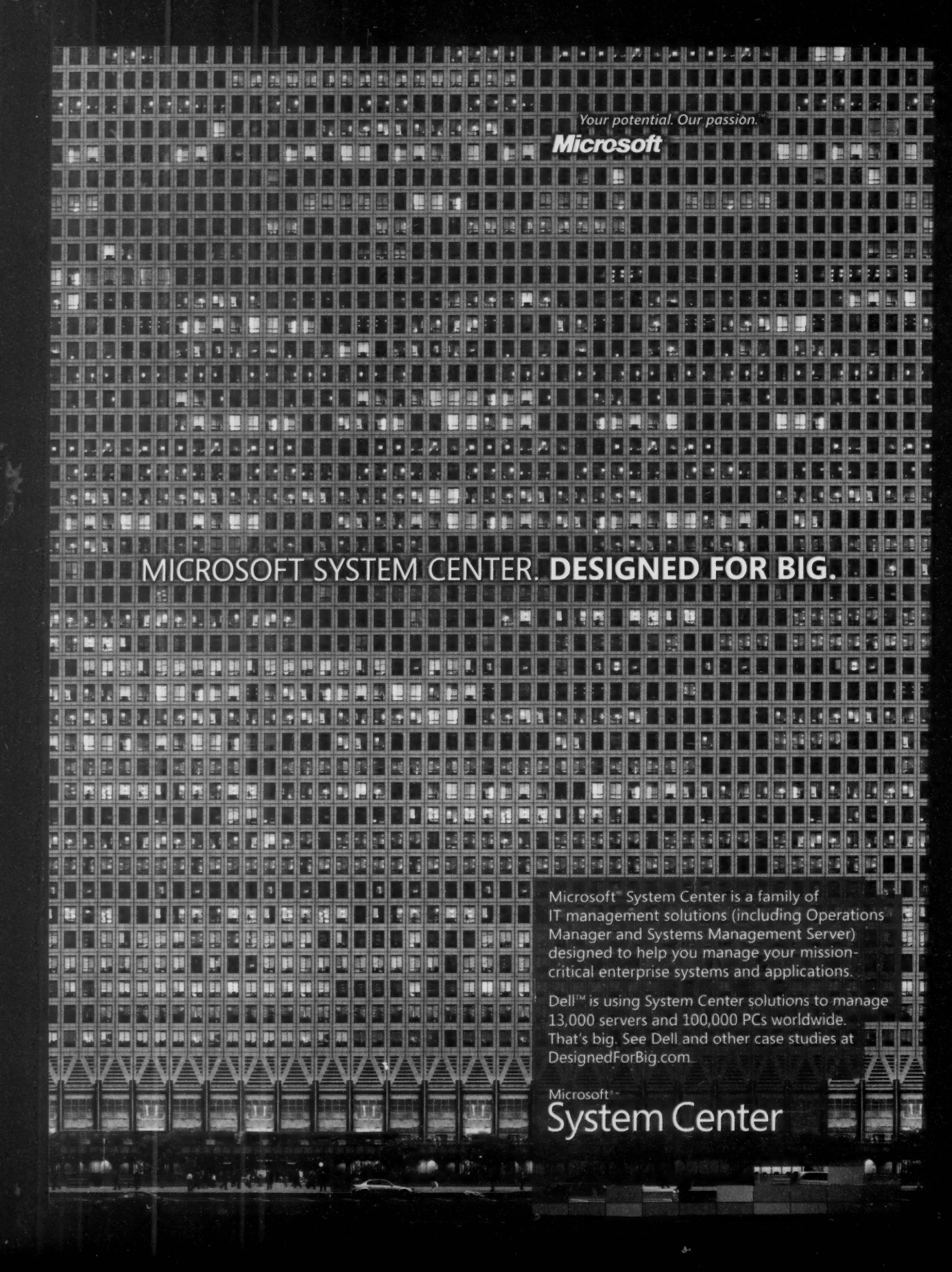
ONLINE

■ **Read the best of *Computerworld*'s coverage of IT's responses to Sept. 11 and Hurricane Katrina.**

■ **Slogged through a water-soaked office or a hurricane-ravaged data center? Tell us your story. Go to http://blogs.computerworld.com/surviving_the_big_one.**

36 Get the Word Out. Your disaster recovery plan is worthless if your people aren't clued in to it. Here are some surefire ways to make everyone listen. Plus, do's and don'ts for disaster recovery test drills.

38 OPINION: Emergency Situation. New emergency communication systems rely heavily on the Internet. But they could be derailed by an online attack, warns columnist Mark Hall.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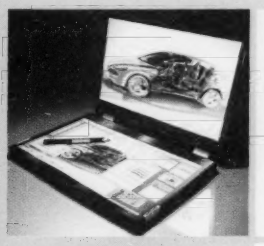
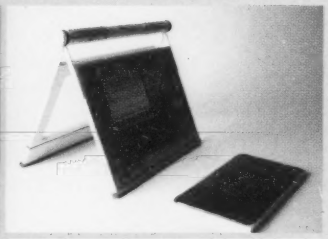
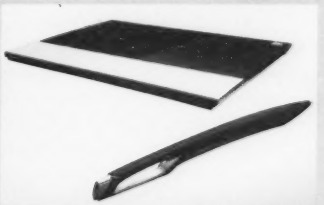




Hello, Gorgeous!

Meet the Laptop You'll Use in 2015



We'll still carry laptop computers with us seven years from now, but they might look significantly different. We talked to several leading hardware designers to see what they're up to. The innovations and capabilities they're planning for laptops will surprise and delight you.

Going, Going, Gone?

WINDOWS XP: You might be able to run XP for as long as you want. But soon, you may not be able to buy a legitimate copy of it. What problems will you face if you want to continue using the operating system?

Making Leopard Servers Simple

HANDS-ON: Here's an in-depth look at Mac OS X Server's new simplified setup and management interface – the ways it works well, and where it's not as effective.

How to Dump Vista SP1

FAQ: If you've upgraded your copy of Windows Vista using Service Pack 1 and want to undo what you did, here's how.

Blog Spotlight

Microsoft Misleads

Microsoft has launched a "Get Green, Stay Green" marketing program that couldn't be further from the truth, blogs **Preston Gralla**.

A Reprieve for XP?

The approaching forced retirement of Windows XP is a hot topic. But developments in ultramobile computing make **David DeJean** wonder if Microsoft is really going to be able to kill off Vista's predecessor.

Gartner's iPhone Flip-flop

Gartner reverses its earlier position that enterprises should stay away from the iPhone. **Seth Weintraub** examines the research firm's change of heart.

Tales From the Crypt: Our First Computers

Computerworld editors share stories of their first PCs, including some classics and some real clunkers. Then we turn the tables and ask readers for their early-PC tales.

A New Type of Bluetooth Security

OPINION: Security capabilities built into Bluetooth are good but not great. Columnist **Craig Mathias** suggests a new way to use Bluetooth to significantly improve mobile security.

High-Tech Under the Hood

The New York International Auto Show: Car or toy? Sometimes it's hard to tell – but these sure are some sweet rides.

SHARKBAIT BETA

Workplace Rampage

Some diehards wish computers had never made their way into the office. And when PCs don't work the way users think they should, tempers can flare – much to the amusement of bystanders. http://sharkbait.computerworld.com/?q=node/2301

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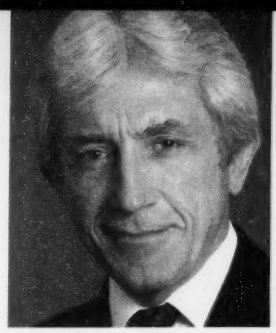
■ EDITOR'S NOTE

Don Tennant

The Real Reality



THERE WAS an interesting column by Lionel Beehner in *USA Today* last week about a trend he calls "what-if thought experimentation." Beehner observes that there has been a surge of interest lately in imagining the world in different intriguing scenarios, such as a world in which humans no longer exist, or one in which 9/11 never happened. What would such a world be like?

It reminded me of one of my favorite books as a kid — MacKinlay Kantor's *If the South Had Won the Civil War.* When I Googled the title to see if it was still in print, I found myself clicking through to the discovery that "alternate history" is a tremendously popular area of interest. I had no idea. But I'm not surprised.

The reason why is simply that I encounter so many people who are so dissatisfied with the world as it is that they tend to center their thinking in an alternate reality. I see it all the time, and some of the feedback I received on last week's column, "Retraining Dilemma," is a great case in point.

In that column, I raised the issue of the expedient approach taken by many employers to replace rather than retrain their employees in order to meet changing skills requirements. I cited the case of Novell CEO Ron Hovsepian, who told me that in the past year, he has replaced 24% of his workforce in order to meet the immediate demand he has had for new skills.

While training is important, Hovsepian explained, it has to be balanced against the financial demands confronting Novell. "The cycle time is the biggest issue," he said. "The brutality of the pressure the company has to operate under in 90 days is what drives us."

I was taken to task by one reader for letting Hovsepian get away with that comment.

"I am greatly disappointed that you report without any critical analysis what the employers wish to propagate," he wrote. "What utter BS! It takes them more than 90 days just to make a decision!

■ We can't allow our thinking to be clouded by confusing reality with its preferable alternative.

It's nothing to do with the 'pressure' in the marketplace, but everything to do with hiring the cheapest H-1B peasant programmer at the lowest price."

Let me be clear: The fact that I didn't fault Hovsepian doesn't mean I'm blind to the negative consequences of a company opting to replace rather than retrain its employees. As I noted last week, until we're able to figure this out, "too many companies will be forced to sacrifice invaluable institutional knowledge for the immediate cost savings that economic reality demands."

And therein lies the problem. Whether we like it or not, the economic reality is that public companies like Novell are answerable to shareholders. That 90-day cycle that shareholders live and breathe in is real. We can all wonder what it would be like to live in a world in which shareholders didn't exist. But we can't allow our thinking to be clouded by confusing reality with its preferable alternative.

Offering some insight into what we might be overlooking in dealing with the realities that confront us — not denying what's real — is what advances the discussion. Other readers did just that.

"Retraining is a direct cost that is easy to measure, and painful to look at. Recruiting, hiring, orienting and tasking new hires involve 'hidden' costs that are less obvious," one reader wrote. "If [companies] seek only interchangeable workers for isolated work, they are forgoing the benefits of organizational knowledge, informal work teams (how work really gets done in an organization; not how the org chart says it gets done) and the chance to build loyalty in those who can advance the company through innovation."

And what about employers demonstrating loyalty to their employees? The same reader asked a poignant question: "Why would I think you will take care of me as a customer if you can't be trusted to take care of your employees?"

It's a fair question, and one I wish I'd asked. There's no alternate-reality dimension to that one. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

■ ONLINE CHATTER

RESPONSES TO:

Why the iPhone Will Change the (PC) World, Part 2

March 14, 2008

There are ergonomic considerations that may slow the adoption of some of these technologies. Virtual keyboards like on the iPhone are fine for typing on the go. I think most folks will prefer a physical keyboard for office work and typing long documents, because of the tactile feedback. Also, ergonomically it's best to have a monitor at eye level, but it's tiring to hold your arms out to control an eye-level touch screen. Put it flat (or low) on the table, and it's easier on your arms, but you're constantly looking down, which can be hard on your neck.

■ **Submitted by:** *James*

One technique used to improve tactile feedback is to briefly enter vibration mode on a key event.

■ **Submitted by:** *Mick*

RESPONSE TO:

Despite Concerns, Corporate Users Adopting Hosted Systems

March 21, 2008

The 2008 economy will provide an interesting test for SaaS-based applications. The challenge to improve productivity and reduce costs will increase interest in SaaS at a time of reduced capital expenditures, growing internal competition for scarce IT resources and increasing need for fast time to value for business application investments. Meanwhile, SaaS is also spreading into different types of applications, beyond CRM to areas like talent management, corporate performance management and Web analytics. And as more SaaS vendors secure SAS 70 Type II certification for their data centers, concerns around data security will diminish.

Perhaps the biggest challenge facing SaaS vendors and customers will be the need to validate the value proposition of these solutions. Hard metrics will be required to convince skeptics that interest in SaaS applications will not fade away as did the computer timesharing business in the early 1980s.

■ **Submitted by:** *Gary Damiano*

RESPONSE TO:

State Department Workers Ignored Passport Data-Access Warnings

March 21, 2008

The fact that we know which account was used to access the records is a major leap forward. Now we have to figure out what to do with the high volume of such information being generated. We are on the verge of being able to know who has looked at our records. Imagine the implications for the Freedom of Information Act when people can ask for an accounting of everyone that has viewed their "private records."

■ **Submitted by:** *Joe Johnson*

RESPONSE TO:

U.S. Sets Rules To Keep H-1B Visa Lottery Fair

March 20, 2008

What we critically need right now is some way to make sure that the people we bring in on H-1B really are the "best and brightest," not ordinary workers brought in to grab work away from our ordinary workers. And we need to make sure that the L-1s who come in really are managerial or expert transfers, not ordinary workers brought in to staff a bench that will then be used to bid against U.S. workers for jobs.

■ **Submitted by:** *Anonymous*

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News Digest

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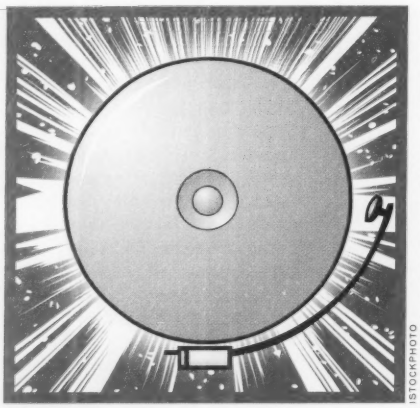
THE WEEK AHEAD

MONDAY: The Women Who Tech "telesummit" is scheduled to be held via a conference call and webinar.

TUESDAY: The U.S. government begins accepting H-1B visa applications for its 2009 fiscal year (see story, page 16).

TUESDAY: The CTIA Wireless 2008 and Data Center World Spring 2008 conferences open, both in Las Vegas.

FRIDAY: BEA Systems plans to hold a stockholder meeting on Oracle's proposed acquisition of the software vendor.



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SECURITY

Microsoft Finally Sounds Jet Bug Alarm

A SECURITY MANAGER acknowledged last week that Microsoft Corp. knew of bugs in its Jet Database Engine as far back as 2005 but left them unpatched because the company thought that the obvious attack vectors were blocked.

Mike Reavey, operations manager at the Microsoft Security Response Center, admitted in a blog post that outside researchers had notified Microsoft in 2005 and 2007 of multiple bugs in the engine.

Jet is a Windows component that provides data access to widely used Microsoft products such as the Access database and Visual Basic development tools. The vulnerabilities allow hackers to access computers using Windows 2000, Windows XP or Windows Server 2003 SP1 through Microsoft Word.

A Microsoft spokesman said that the company is working on a patch, though he didn't disclose release plans. But he did say that the update may become available before Microsoft's next regularly scheduled patch release on April 8.

In both 2005 and 2007, Microsoft told the researchers that it would not fix the flaw because it believed features in its Outlook software and Exchange servers would automatically blunt attacks, Reavey said.

Earlier this month, however, researchers at Symantec Corp. reported that hackers were starting to exploit the Outlook feature to launch successful attacks.

"Everything changed with the discovery of this new attack vector," Reavey said. "That's why we alerted customers and are reinvestigating Jet parsing flaws."

Oliver Friedrichs, a director in Symantec's security response unit, said Microsoft should have patched the vulnerability long ago. "I can't count the number of times we've seen this in the past with a Microsoft product," he said. "Clearly, there should have been more concern from Microsoft in the first place. It does draw some concern."

Reavey said that the Microsoft security team is still working to determine exactly how to patch the bug. Options include replacing the version of Jet in Windows 2000, XP and Server 2003 SP1 with a newer Vista and Windows Server 2003 SP2 version.

Reavey acknowledged that a patch would not completely eliminate the bugs. "Jet database files will remain on the 'unsafe file type' list because they can run code by design," he said. "Even if we tried to, we could not secure this file format; it will always present attackers an opportunity to run code."

In the meantime, both Microsoft and Symantec last week advised users to either disable the vulnerable files or disable the Jet Database Engine.

— Gregg Keizer

HARDWARE

DARPA Taps Sun to Build 'Macrochips'

Sun Microsystems Inc. last week said the Defense Advanced Research Projects Agency is giving it up to $44.3 million to fund research on using optical technology to speed up communication between processors in supercomputers and other systems.

The project is aimed at developing what Sun described as "virtual macrochips" – arrays of low-cost processors connected via silicon-based optics.

The idea of using optical connections between processors isn't new. But Ron Ho, a distinguished engineer at Sun who is part of the macrochip project team, said a key issue will be reducing the amount of energy that optical chips consume.

"You can't exploit the power of optics without bringing the power [usage] way down," Ho said. "That's the risk DARPA is trying to address with this program."

– PATRICK THIBODEAU

> **"I think two or three years would be extremely aggressive for [macrochips] to show up in a product.**
>
> **NATHAN BROCKWOOD,** ANALYST, INSIGHT 64

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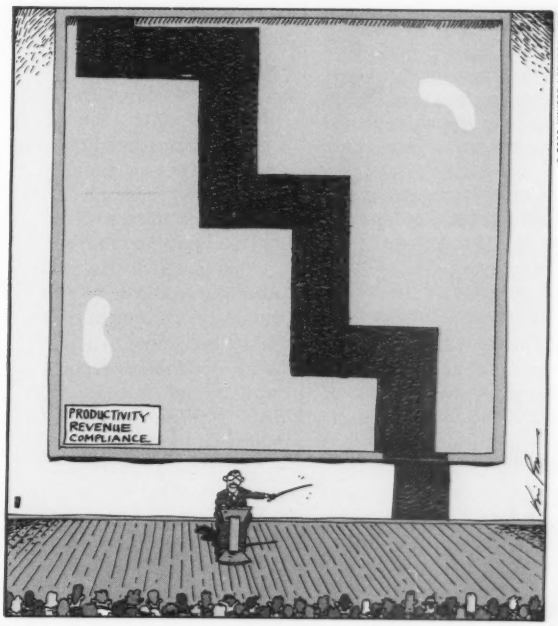

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SOFTWARE

Trash Company Sues SAP After Dumping ERP Apps

WASTE Management Inc. is suing SAP AG, claiming that a fraudulent sales scheme by the software vendor led to a failed ERP project at the trash disposal company.

Houston-based Waste Management said in a statement that the company is seeking to recover more than $100 million in project costs, and that it also wants to gain "the savings and benefits that the SAP software was promised to deliver."

A spokeswoman for Waste Management said the company wouldn't comment beyond its statement about the lawsuit, which was filed March 20 in a Texas county court. But she noted that Waste Management will continue using the proprietary system that SAP's applications were supposed to replace.

Meanwhile, an SAP spokesman said that the vendor doesn't comment about ongoing litigation.

> **"From the beginning, SAP assured Waste Management that its software was an 'out-of-the-box' solution. Unfortunately, Waste Management ultimately learned that these representations were not true.**
>
> **- FROM A STATEMENT ISSUED LAST WEEK BY WASTE MANAGEMENT INC.**

The legal action stems from a software purchase contract signed in October 2005. Waste Management, which was looking to install a new revenue management system, said that SAP described the Waste and Recycling version of its ERP applications as "a tested, working solution."

According to Waste Management, SAP said the software could be implemented throughout its operations in 18 months, without customization or enhancements. But, the trash hauler contended, SAP's product demonstrations were based on "fake software environments, even though these demonstrations were represented to be the actual software."

Waste Management's suit claims that "almost immediately" after the contract was signed, an implementation team from SAP "discovered significant 'gaps' between the software's functionality and Waste Management's business requirements."

The court filing says that a pilot rollout in New Mexico that SAP originally promised would be up and running by December 2006 "is not even close to being completed today." According to the suit, last summer SAP told Waste Management that the company would have to "start over" and agree to let SAP build a new version of the software.

Waste Management said that it and SAP recently scheduled a three-day mediation process. But, the company added, SAP ended the meetings after the second day.

— Chris Kanaracus, IDG News Service

Short Takes

The U.S. Federal Trade Commission settled data breach complaints against retailer TJX Companies Inc. and data broker Reed Elsevier PLC. The settlement requires that both firms create comprehensive information security programs and submit to biennial data security audits for the next 20 years.

Sun Microsystems Inc. confirmed that it shipped some Sparc Enterprise T5120 and T5220 systems with flaws that could allow remote attackers to hijack the machines. The company disclosed few details about the flaw but issued instructions for fixing the affected systems.

Oracle Corp. has agreed to acquire a set of Web application testing products from Empirix Inc. for an undisclosed sum. The Empirix e-Test suite will be part of Oracle's Enterprise Manager product.

Mozilla Corp. has confirmed that the release of the final beta of Firefox 3.0 is imminent and that it expects to deliver the finished open-source browser in June.

SECURITY

Programmer Sentenced For Stealing Bank Data

A FORMER PROGRAMMER at a Birmingham, Ala., bank has been sentenced to 42 months in prison for stealing a hard drive containing 1 million customer records and using some of the data to commit debit card fraud.

A federal judge also ordered James Kevin Real and a female accomplice to pay back nearly $33,000 that they withdrew last year from accounts at Compass Bank using counterfeit debit cards.

The data compromise was one of the largest breaches at a U.S. bank to come to light thus far, in terms of the number of customer records that were potentially exposed. But Compass spokesman Ed Bilek said last week that the bank notified only the 250 or so customers whose debit cards were counterfeited by Real and his accomplice.

According to court documents, the drive Real stole last May held a database that included the names, account numbers and online passwords of Compass customers.

But Bilek said that the records were stored in a format that wasn't "readily usable" for committing fraud or accessing account information. He didn't clarify what he meant by that.

Alabama is one of 11 states that don't require companies to automatically notify affected consumers about security breaches involving the compromise of unencrypted personal data.

– JAIKUMAR VIJAYAN

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SaaS

Hosted Software Is Not A Panacea, CIOs Warn

SANTA CLARA, CALIF.

WHILE MOSTLY agreeing that the software-as-a-service model can cut IT costs and ease administration and upgrades, a panel of CIOs at *Computerworld*'s SaaSCon conference here last week also warned that it's not beneficial for all companies.

For example, Jesus Arriaga, CIO at Bosley Medical Group Inc. in Beverly Hills, Calif., said that companies using a lot of customized software should avoid hosted software.

"If you have a unique situation that requires a ton of customization or modification, then you definitely have to look at a different model," he remarked.

Dean Lane, CIO at Henley-Putnam University in San Jose, advised companies interested in the SaaS model to closely scrutinize hosted products and the vendors that offer them.

IT managers must calculate the long-term costs of hosted software and determine whether providers can meet their needs, he said. In particular, they should ask hosted software vendors about their security policies, data center locations, back-up and recovery capabilities, and plans for handling unexpected outages.

Joe Lacik, senior vice president of information services at Aviall Services Inc., a Fort Worth, Texas-based unit of The Boeing Co., said he's skeptical of the SaaS model.

"[Hosted software] sounds like it's going to mean less people and lower costs," he said. "I'm not convinced. It just shifts workload and increases your responsibility." Moreover, he added, "the idea that you're going to make a change in technology [without] an up-front cost is a big problem."

— Brian Fonseca

"[Hosted software] sounds like it's going to mean less people and lower costs. I'm not convinced. It just shifts workload and increases your responsibility.

JOE LACIK, SENIOR VICE PRESIDENT, AVIALL SERVICES INC.

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

After being pressured by investor Carl Icahn to restructure itself, Motorola Inc. said it plans to spin off its unprofitable mobile device business into a separate company next year.

Washington Gov. Chris Gregoire signed a bill making it a felony to surreptitiously scan RFID-based driver's licenses and ID cards to engage in fraud, identity theft or other illegal acts.

THREE YEARS AGO: Hewlett-Packard Co.'s board chose Mark Hurd, then the CEO of NCR Corp., to replace the ousted Carly Fiorina as HP's CEO.

Global Dispatches

U.K. Considers E-crime Unit

LONDON – The U.K. Home Office last week confirmed that it is "considering" funding a national e-crime unit proposed by the country's Association of Chief Police Officers.

Earlier this month, Home Office Minister Vernon Coaker met with Charlie McMurdie, head of Scotland Yard's Computer Crime Unit, and other law enforcment officials to discuss the proposal.

The police chiefs group has proposed that the Home Office approve £1.3 million ($2.6 million U.S.) in initial funding for the e-crime organization.

A Home Office spokesman said that the agency is "considering how we take an overall approach to issues such as electronic fraud."

McMurdie told *Computerworld U.K.* that the meeting with Coaker was "fairly positive" and that she expects an answer in four to six weeks. "He's asked us to leave it with him in the short term, to see if the funding is available," said McMurdie.

Leo King,
Computerworld U.K.

BT Opens IT Center in India

GURGAON, INDIA – BT Group PLC last week opened a global operations center here to run systems and processes for BT's various worldwide business lines. About 300 people will work in the facility.

The center will also support corporate functions, such as procurement, legal, finance and human resources operations, the company said.

The London-based telecommunications company has opened similar centers in Hungary, Brazil and China.

John Ribeiro,
IDG News Service

BRIEFLY NOTED

Jeremy Richard Godfrey has been named CIO for the government of Hong Kong. Godfrey, most recently a partner at PA Consulting Group Ltd., previously held management posts in the Hong Kong office of Cable & Wireless PLC and at Hongkong Telecom. He will begin his new job on April 7.

Stefan Hammond,
Computerworld Hong Kong Online

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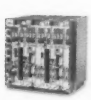

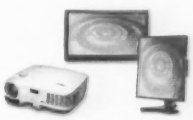

IT SERVICES AND SOFTWARE **ENTERPRISE NETWORKING AND COMPUTING** SEMICONDUCTORS IMAGING AND DISPLAYS

NEC is proud to have the No. 1 worldwide ranking in enterprise telephony extension line shipments in 2006, for the second year in a row, according to Gartner.*

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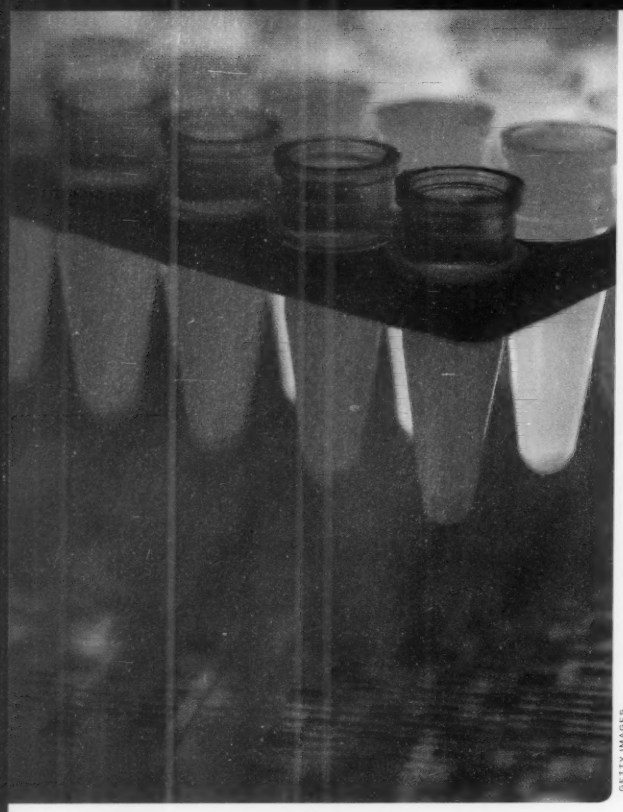


GETTY IMAGES

Genome Discovery Forces Massive IT Upgrade

A government-backed grid project is making cancer treatment and research data more widely available.

By Heather Havenstein

■ GRID COMPUTING

IN JUNE 2000, U.S. President Bill Clinton and British Prime Minister Tony Blair unveiled what amounted to a "rough draft" of the deciphered human genome, a milestone in the effort to crack the complex genetic code that shapes human development.

The effort to map the human genome, completed in April 2003, was heavily dependent on advanced computing techniques for the data-intensive task of mapping the sequence of 3 billion base gene pairs.

Ironically, getting that genetic data into the hands of biomedical researchers has created another major computer quandary: the need for even more advanced systems that can keep up with an increasing number of disease subcategories being discovered through genetic research.

The National Cancer Institute took on the task of addressing that issue in 2003 by launching what it calls the largest IT project in the history of biomedical research. The NCI created what is, in essence, a World Wide Web of cancer research.

The new Cancer Biomedical Informatics Grid, or caBIG, promises to help researchers, physicians and patients across the country better share more-detailed information about diseases and thus speed the development of new drugs and treatments for them.

The government-funded effort costs about $20 million per year, the NCI said.

To date, 42 of the NCI's 63 cancer centers are either linked to the caBIG grid or installing the infrastructure they need to participate. More than 40 applications have already been developed and are being shared across the grid.

Traditionally, cancer researchers focused on studying a relatively small number of disease categories, such as lung cancer, breast cancer or colon cancer. But as the genome work expanded, many disease subtypes were discovered within those categories, and each may require a different treatment.

Cancer researchers quickly saw the need to assemble as much information as possible to help in the development of new disease-specific treatment options. So to broaden the number of data sources, the NCI has begun expanding the grid to include the community hospitals and physicians that treat 80% of U.S. cancer patients.

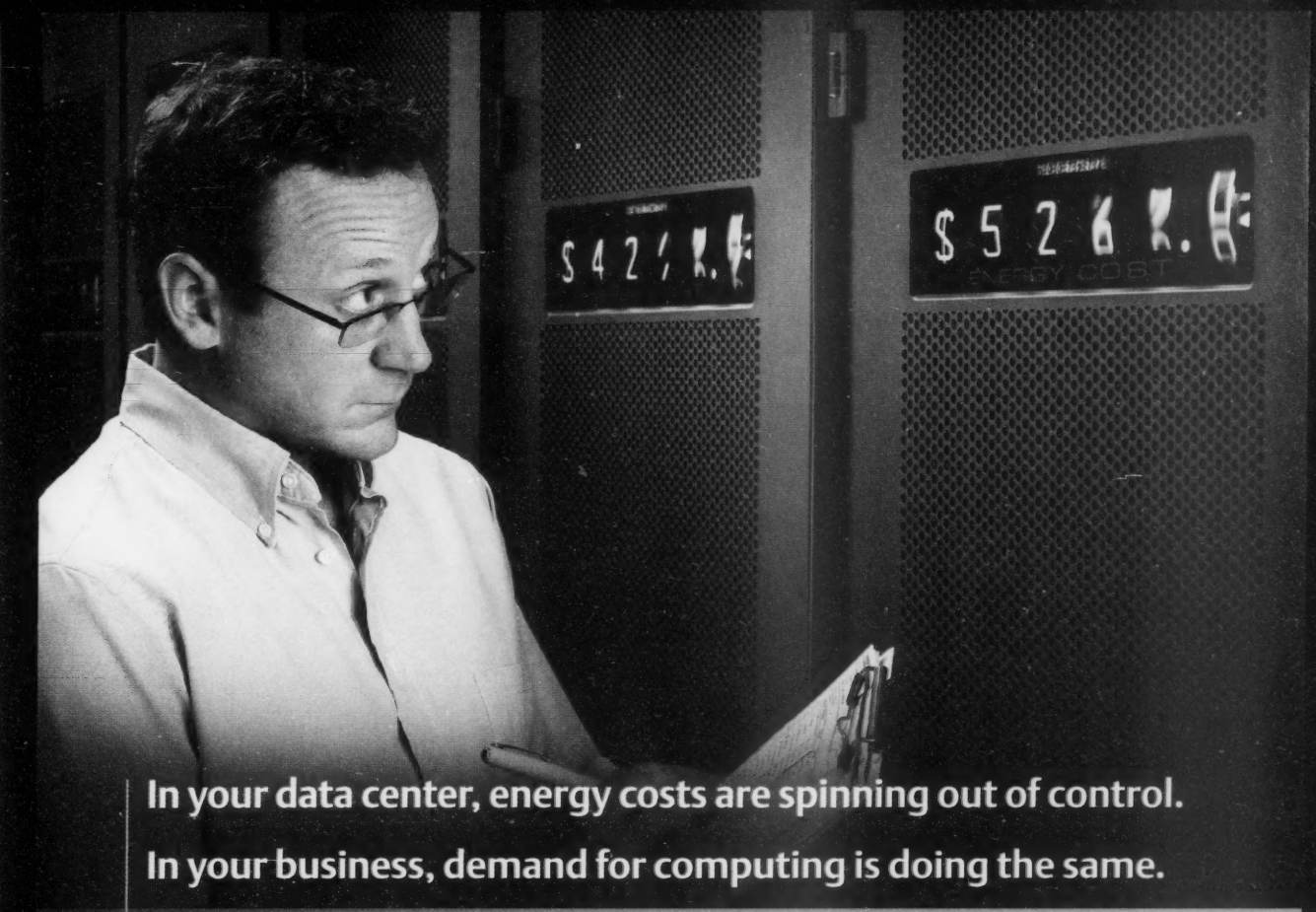
INTEROPERABILITY

Project backers said that researchers decided early on to focus on improving interoperability rather than force research organizations to standardize on expensive new IT systems and software.

Toward that end, the developers used the Globus Toolkit, a set of open-source tools for building grid systems and applications that run on top of Web services that are open to anyone with a node on the system. The Globus tools are distributed by the Globus Alliance.

Developers also created a collection of tools that serve up semantic descriptions of vocabulary and data so that both humans and machines can interpret data from dissimilar systems. And a common security model was built to allow research

Continued on page 14



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Continued from page 12

centers to run caBIG as a distributed infrastructure that lets each participant create individual policies to determine who can author or access data.

In addition, Ken Beutow, director of the NCI's Center for Bioinformatics, said the institute has set up "workspaces" — groups of people that meet regularly to discuss specific domains of work, such as tissue banks and pathology tools. The workspace groups provided input on building the common vocabularies and data elements, he noted.

Robert Annechiarico, director of cancer center information systems at Duke University, which has already helped build applications for the grid, said that creating the common data elements is particularly important for academic researchers. "Academic medical centers are a community of fiefdoms bound together by a common parking problem," he explained.

Researchers at Duke contributed to the development of two caBIG applications, the Cancer Central Clinical Database and the Cancer Central Clinical Participant Registry.

The latter application, a Web-based tool for managing clinical trial data across multiple cancer centers, can provide researchers with access to records about patients diagnosed with one of the new subcategories of cancer.

"Where I might see five patients a year with a particular disease, now I can see 50," Annechiarico said.

Duke is using the clinical database in a $6.8 million research project, funded by the U.S. Department of Defense's Breast Cancer Research Program, to study how genomic profiling can be used to guide treatment plans for women with newly diagnosed breast cancer, he added.

> **"This change in medicine is revolutionary. We have the capacity now to look and see how an individual might respond to a particular therapeutic approach."**
>
> KEN BEUTOW, DIRECTOR, NATIONAL CANCER INSTITUTE, CENTER FOR BIOINFORMATICS

In addition to expanding the data sets that researchers can access, caBIG could also make treatment safer for patients, noted Warren Kibbe, director of bioinformatics at the Robert H. Lurie Comprehensive Cancer Center in Evanston, Ill.

For example, he said, development of a caBIG clinical trial management application would allow researchers to determine the adverse effects of a single medication used in multiple clinical trials. "That is one example of how caBIG is starting to touch patients in a way that hasn't been possible," Kibbe added.

The open-source Patient Study Calendar application now in development at the center will be used for patients in clinical trials, he noted. Among other things, the application will be able to tell patients how much medication to take and when.

The single application could define patient management parameters, eliminating some of the problems that result when doctors with different types of training — a surgeon versus an oncologist, for example — interpret rules differently, Kibbe said.

Implementing caBIG has not been without challenges, at least according to an NCI-commissioned review of the project that was released late last year.

The report found that over the life of the effort — from 2003 to 2007 — developers did not adequately work to meet the needs of end users and too often released buggy products.

Beutow said the report prompted the NCI to "redouble" its efforts to provide users with better technical support. The agency now sends users updates on the program via e-mail lists, has created Web sites with caBIG information and has launched a telephone help line to provide technical support to users.

LONG ROAD AHEAD

At the same time, the caBIG program is in the midst of an effort to link the grid and its 40-plus applications to community health care providers. To date, 16 have signed up to join the program.

And national cancer centers in the U.K. are in the process of building an infrastructure to become "caBIG-enabled," Beutow added.

Len Lichtenfeld, deputy chief medical officer of the American Cancer Society, noted that data-sharing projects like caBIG are critical to science but still have a long way to go.

"We haven't even begun to scratch the surface of how we can cooperate and share data," he said. Taking advantage of the "explosion of information" generated by genomic research is going to take a tremendous amount of infrastructure development — and time, Lichtenfeld added.

"I am 61 years old, [and] I would hope we are able to see some of this connectivity before I am gone from this earth," he noted. "It is going to take us another generation until we see the type of applications where we can put it directly into affecting patient care."

Nonetheless, the NCI's parent organization, the National Institutes of Health, is already holding up caBIG as a model for sharing research and treatment data associated with other illnesses, like cardiovascular disease.

David Steffen, director of the Bioinformatics Research Center at Baylor College of Medicine in Houston, noted that his organization is now working under caBIG auspices to find a way to use the grid to share cardiovascular disease research data.

"This change in medicine is revolutionary," Beutow said. "We have the capacity now to look and see how an individual might respond to a particular therapeutic approach."

The medical community should use IT resources to extend biomedical research the same way that technology has transformed the financial services industry and the DoD, he added.

CaBIG is also working with President Bush's Office of the National Coordinator for Health Information Technology — which oversees the development of electronic health records policies — to ensure that EHRs can include details about a person's genetic makeup. ■

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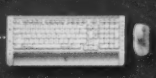

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ISTOCKPHOTO

Recession Unlikely to Curb H-1B Demand

The U.S. economy may be tanking. But a record number of applications for H-1B visas are expected to be filed this week. Here's why. By Patrick Thibodeau

CONSUMER confidence is down, unemployment claims are up, and the U.S. economy may already have slipped into recession. But starting tomorrow, the federal government will likely receive a record number of applications from employers seeking H-1B visas for workers from overseas.

So why is the demand for foreign workers, including skilled software developers and other IT professionals, still rising as economic conditions grow steadily worse?

First, there's pent-up demand for H-1B visas. Last year, the U.S. Citizenship and Immigration Services received more than 143,000 petitions for the 85,000 visas available for the government's 2008 fiscal year. That forced the USCIS to choose recipients via a lottery process, and many of the people who didn't get visas are expected to try again this year.

Second, even if the overall job market is declining, the shift of technology jobs to outsourcing vendors isn't likely to abate. And many of the largest H-1B users are offshore outsourcing firms. For instance, eight of the top 10 recipients of new H-1B visas in fiscal 2007 were outsourcers that are based in India or have substantial offshore operations.

Third, H-1B proponents such as Microsoft Corp. Chairman Bill Gates claim that the U.S. doesn't have enough "world-class engineers" to meet the needs of employers. At a congressional hearing this month, Gates said that the annual visa cap "bears no relation to the U.S. economy's demand for skilled professionals."

H-1B critics dispute that contention. Nonetheless, three bills proposing increases in the cap were introduced in Congress shortly after Gates spoke. Congress may make any cap increase retroactive — a prospect that could encourage companies to submit H-1B applications just to make sure they have a place in line.

For those reasons, there's a good chance that the number of H-1B petitions filed this year will exceed last year's total, further reducing the odds of getting a visa unless the cap is increased.

The demand for visas may be inflated if companies try to boost their lottery odds by applying for more than they really need. Earlier this month, the USCIS set a new rule barring employers from filing multiple petitions for one person. But a parent company and its subsidiaries can still separately seek visas for the same worker, as long as the applications are for different jobs.

Jacob Sapochnick, a San Diego-based attorney who represents companies seeking H-1B visas, is concerned that offshore outsourcing firms will use that and other methods to improve their chances in the lottery. "This is a problem — we're worried," Sapochnick said.

Some offshore firms are increasing their U.S. presence, partly to mitigate the effect of the H-1B limits. Last July, Wipro Ltd. announced plans to build a 1,000-worker software development center in Atlanta. And Tata Consultancy Services Ltd. said this month that it is opening a services delivery center near Cincinnati. Tata, which has more than 16,000 employees scattered at client sites in the U.S., plans to mostly hire locals — initially, about 500 people — at the new facility.

But Phiroz Vandrevala, Tata's executive director of global corporate affairs, said the delivery center won't significantly reduce H-1B needs at the firm, which received nearly 3,500 visas in fiscal 2006 and 2007. "Five hundred positions is not going to change the needle significantly," he said.

Getting an H-1B visa these days is "all on luck — it's not on merit," said Brijesh Nair, an Indian national who earned a Ph.D. in civil engineering in the U.S. and has been working here on a visa for the past 18 months.

Nevertheless, the applications keep coming.

Nicole Lawrence Ezer, an immigration attorney at Sutherland Asbill & Brennan LLP in Houston, expects a flood of H-1B petitions tomorrow. And she thinks the cap for both types of visas — 65,000 regular ones, and 20,000 for foreign workers with advanced degrees from U.S. universities — will be reached in a matter of days.

"Nobody is foolish enough to wait," Ezer said. ■

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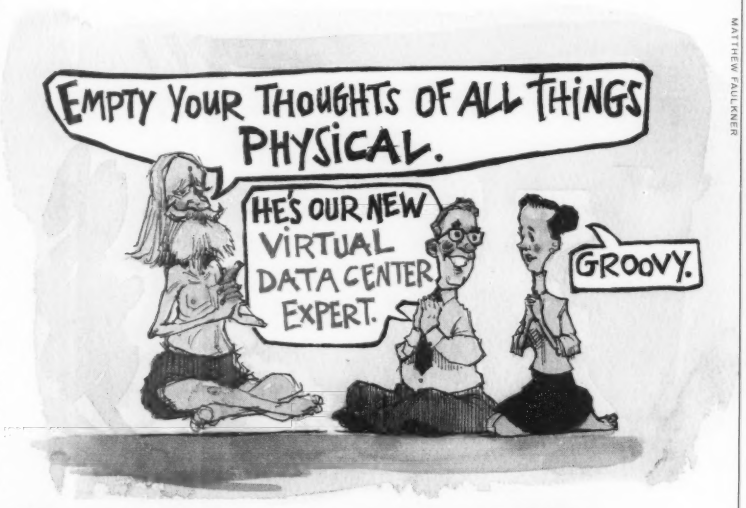
On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL



MATTHEW FAULKNER

Real Fail-over for VMs

ONCE YOU'VE loaded noncritical Web, file and print servers onto virtual machines, you get the itch to consolidate even more. But you draw the line at servers that run business-critical applications and need fail-over systems, right?

Well, check out Marathon Technologies Corp.'s everRun VM software, now in beta. Steven Keilen, vice president of marketing at the Littleton, Mass.-based company, says the product lets you choose from three levels of fail-over protection: basic fail-over; component-level fault tolerance; and system-level fault tolerance, called LockStep. Says Keilen, you install everRun VM on two x86-class servers and choose your level of fault tolerance with a simple radio button. The software then checks the two servers to ensure that both are adequate for the level you've chosen. And the servers can be in different geographic locations for disaster recovery purposes, Keilen says.

Keilen: Adding fault tolerance opens up VMs to apps.

Marathon's everRun will be available in late April. The LockStep option will go gold in early Q4. EverRun starts at $2,000 per physical server, with unlimited virtual machines. A bundle with Citrix XenServer is $4,500 per machine. It's worth a look, if failure is not an option.

Real Security for Virtual Machines

As the economy worsens, the pressure to consolidate via virtualization will mount. But don't let security be virtual, especially when it comes to the "virtual switch" that connects your virtual machines to a virtual network. That's the message from Amir Ben-Efraim, CEO of Altor Networks Inc. in Redwood City, Calif. Virtual switches can't be managed or even detected by most network management tools, he says.

Secure your virtual switches, urges Ben-Efraim.

This month, Altor unveiled its Virtual Network Security Analyzer, which plugs into VMware Inc.'s virtual switch and monitors every packet going to and from each VM. And come this summer, Ben-Efraim says, the company will release its Virtual Network Firewall, which will let you define and enforce policies, such as shutting down multicast traffic. Later this year, Altor will offer support for XenServer. Pricing starts at $500 per physical server for the Security Analyzer and $1,500 for the firewall.

Add Real Context To CCs and BCCs

RPost U.S. Inc.'s e-mail service, which might be considered the registered mail of the Internet, has a cool new feature. SideNote, says Zafar Khan, CEO of the Los Angeles-based company, lets you provide "context" to recipients of an e-mail message who are being "carbon copied" (cc) or "blind carbon copied" (bcc).

For those unfamiliar with the world of paper letters and memos, Khan explains that in the old days, missive writers would scribble notes explaining to people why they were getting cc'd or bcc'd on a given message. But in the e-mail era, that flexibility vanished. He says people often call or send additional e-mails to people being cc'd or bcc'd to give the context for the e-mail. With SideNote, RPost users simply click on a button in their mail clients and write a bright-yellow note for each cc and bcc recipient. Recipients need not be users of RPost and can even get SideNotes on their BlackBerries or iPhones. SideNote comes free with the standard RPost service. RPost has plug-ins for Outlook, Notes and GroupWise mail clients. Pricing starts at $59 per 100 registered e-mails. ■

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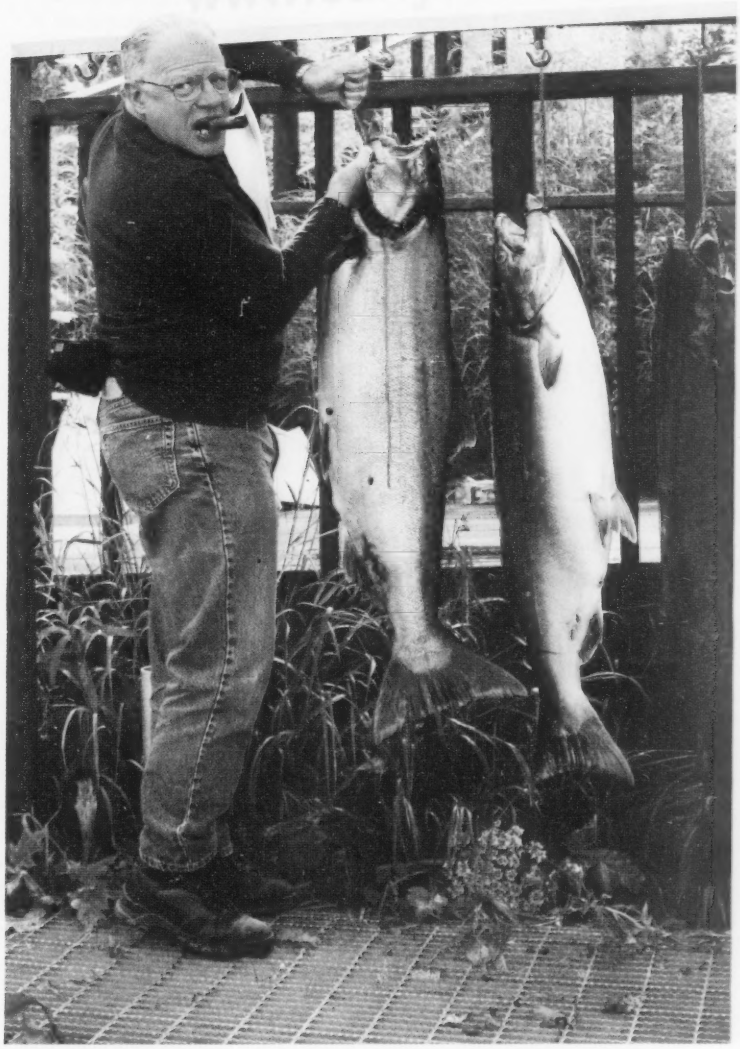

■ THE GRILL

Howard Schmidt

The **former White House security adviser** talks about **mobile vulnerabilities**, **background checks** for IT workers and **fishing.**

Dossier

Name: Howard Schmidt

Title: CEO

Company: R&H Security Consulting LLC

Location: Issaquah, Wash.

Favorite job: "The police department in Arizona. I was there for six years working with some great people."

Job he'd like to try: Commercial pilot or professional bass fisherman.

Favorite pastime: "Fishing. I'm up in Alaska regularly – out on a boat fishing."

In high school, he was: "The guy who was always out there dancing. Everyone else was hanging by the wall, and I'd be out there. I didn't even have to be drunk to do that. I still do that today."

A former White House security adviser, Howard Schmidt was appointed by President Bush as special adviser for cyberspace security just three months after the terrorist attacks of Sept. 11, 2001. On the corporate side, he once served as chief security strategist at eBay Inc., and he also was chief security officer at Microsoft Corp. In the military, he was director of the Air Force Office of Special Investigations Computer Forensic Lab and Computer Crime and Information Warfare Division.

What's the scariest thing you see happening in security right now? I think it's the mobile devices and the capabilities that we want. There isn't enough attention to making those things secure.

We now have the capability to download and install all kinds of applications on our mobile devices. People use a mobile phone for more than talking. I use mine to pay my PayPal account, to check my bank account. I see criminals out there who know this. What they've been attacking on the desktop, they'll starting attacking in our mobile devices as they become more like PCs in our pockets. We can't wait five years to do something about it. We have to do something now.

> **The way I look at is, if you don't have security, you can't guarantee privacy.**

What are CSOs telling you they're most worried about? The whole issue of risk and compliance. Most of the CSOs I talk to are saying less about what's the best technology [and more about] how do they make sure their firms can feel confident they're doing good governance, risk and compliance. How do they know they've minimized risk for the company and they comply with federal laws, state laws and international laws?

How can companies strike a balance between security and privacy? For a long time, there's been the perspective that if you have security, you don't have privacy. The way I look at is, if you don't have security, you can't guarantee privacy. Privacy falls into two buckets. One is, how can we protect our data? You do that using good security. The second is, who does what with my data? How can I control that? This is the difficult part. Right now, we are not in control of that data.

I'll give you a live example. One of our boys is in medical school in Wisconsin. Rather than pay for board, we bought a house there. We weren't financing it, but they wanted our Social Security numbers. I said, "You've got my ID, my passport, my license. You've got confirmation of who I am. Why do you need my Social Security number, and what happens to it if someone breaks in here?" I didn't fill it out. We basically need a bill of rights over privacy of information.

Are passports equipped with RFID implants a good idea? I don't think it's a bad idea, but I don't think security was as high a consideration as it should have been. I have one. And knowing the security implications of it, I'm very cognizant of where I put it to make sure no one can use a mechanism to read something from it. You've seen these card readers where you go up to a gas pump and it has a little RFID wand. The government and customs are not the only ones who have access to these readers. Someone just has to get close enough to you that they can read the data off your passport. Once they get that, they can use it to create a fake passport.

What do you think about companies doing background checks on IT workers? I think it's not a bad idea, realizing that every company has a different culture. IT is just no longer a function that helps you share PowerPoints and do word processing. IT has become a part of our day-to-day critical infrastructure. It's how we make our financial services run and transportation systems work. If people are involved in IT, they need some scrutiny to make sure they're not at [risk] for doing bad things to the company or even to national security.

I frequently hear people talking about the possibility of terrorists attacking computer networks in the U.S. How much of a threat do you think this really is? They don't want to wind up attacking a system they depend on. Terrorists now can push bin Laden videos to mobile phones. They're doing podcasts and webcasts. To attack the Internet is not in their best interests because they'd suffer like everyone else. Attacking a financial system to cause economic harm, is that a possibility? Absolutely. But the protections you put in place to protect against a regular hacker would be the same best practices you'd use against anyone, including a terrorist.

We're hearing a lot about the Chinese breaking into our government networks. How secure or insecure are we against these kinds of attacks? Sen. Sam Nunn, in a meeting at the Pentagon [in the mid-1990s], asked me [how we would fare] if there was a technological war and another country was to attack us, on a scale of 1 to 10. Ten, they have no chance of affecting us, and 1, they would devastate us and own everything we have. I said we'd be somewhere around a 5 or 6. Today, that has changed dramatically. I think we're in a much better situation. We're much more secure, and we're reducing our attack vectors. In terms of withstanding an attack, we'd be closer to an 8 or a 9. We have the ability to turn back attacks. We also could shut down systems that might be under attack and bring them internal.

What should the government be doing to increase cybersecurity? There's education and research that the government could help more on. And using the power of procurement, they could push vendors to develop more-secure systems. If the government says, "Design me a more secure system, and here's the money to go do it," the vendor [would do it and] then sell it to the private sector. The other piece is that there's not a whole lot of emphasis from the government on research. The government could seed the next generation of tech-savvy researchers to look at our problems and figure out how we can solve them.

— *Interview by* **Sharon Gaudin**

■ OPINION

Bruce A. Stewart

Why Can't IT Speed Things Up?

SEVERAL CLIENTS and prospects have said to me that they want to speed up their IT organizations. They perceive that while the pace of change demanded by the business will accelerate soon, no more resources will be supplied. They'll have to move things through faster so that their teams can be freed up sooner for the next project.

Fair enough. All these IT organizations could stand to speed up, and they're thinking as a business would, seeing the need to constantly rejigger operations as demand grows.

But speed doesn't come easily, and that's a message none of these organizations has been comfortable hearing. Here's what stands in their way:

A focus on big projects. In every case, the whole structure of the IT organization — from project offices to approval processes — is geared for large projects that last a year or longer. The projects are strictly linear, with business analysts interacting with architecture to produce reference solutions, then development experts converting that into designs, and then specifications being laid down. All this is good for getting a big effort right, but these steps slow down the work.

Hostility toward new ways of doing things. These IT organizations won't invest in and experiment with new tools, approaches and methods until there is a project "worthy" of them. Meanwhile, no business client will take a chance on anything new. The result is that yesterday's languages, tools and methods remain today's — and likely tomorrow's.

Silence rather than dialogue on IT investments. When business people are left in the dark about IT's existing portfolio, they can only wonder: Are the existing pieces expensive to maintain and test? Is the company losing technical quality through skills attrition or lack of investment by vendors? Is it suffering declining functionality as the work processes evolve and the software doesn't? Without portfolio feedback, the business can't judge whether to extend what it owns a little longer or to start again for the next decade. More often than not, the business defers to IT — and IT defers to what it already knows.

■ You can't just decide to speed things up without first addressing five core problems.

The business side's commitment level. Not all the problems are in IT. In every one of these companies, the business does not make IT tech projects a priority. Decision-makers don't come to meetings, and key issues aren't worked out early. Far too often, core questions — "What is a superior customer experience?" or "What is a premier supplier?" — aren't asked until late in the game.

At project's end, the business won't participate in testing or invest in deployment support. That's a governance breakdown. Successful IT projects are a partnership, but too often the business side fails to do its part.

Corporate style. Corporate behavior influences what you can do. If your performance evaluation system is too rigid, or if you are required to plan (and then execute according to that plan) with nothing held back for change, your speed will be limited. Here, IT can push against the limits, but it's hard to go any great distance past them.

Speeding up is a good thing to work on. But you must make sure that you address these hurdles. Miss one, and you'll lose credibility — and still be considered slow. ■

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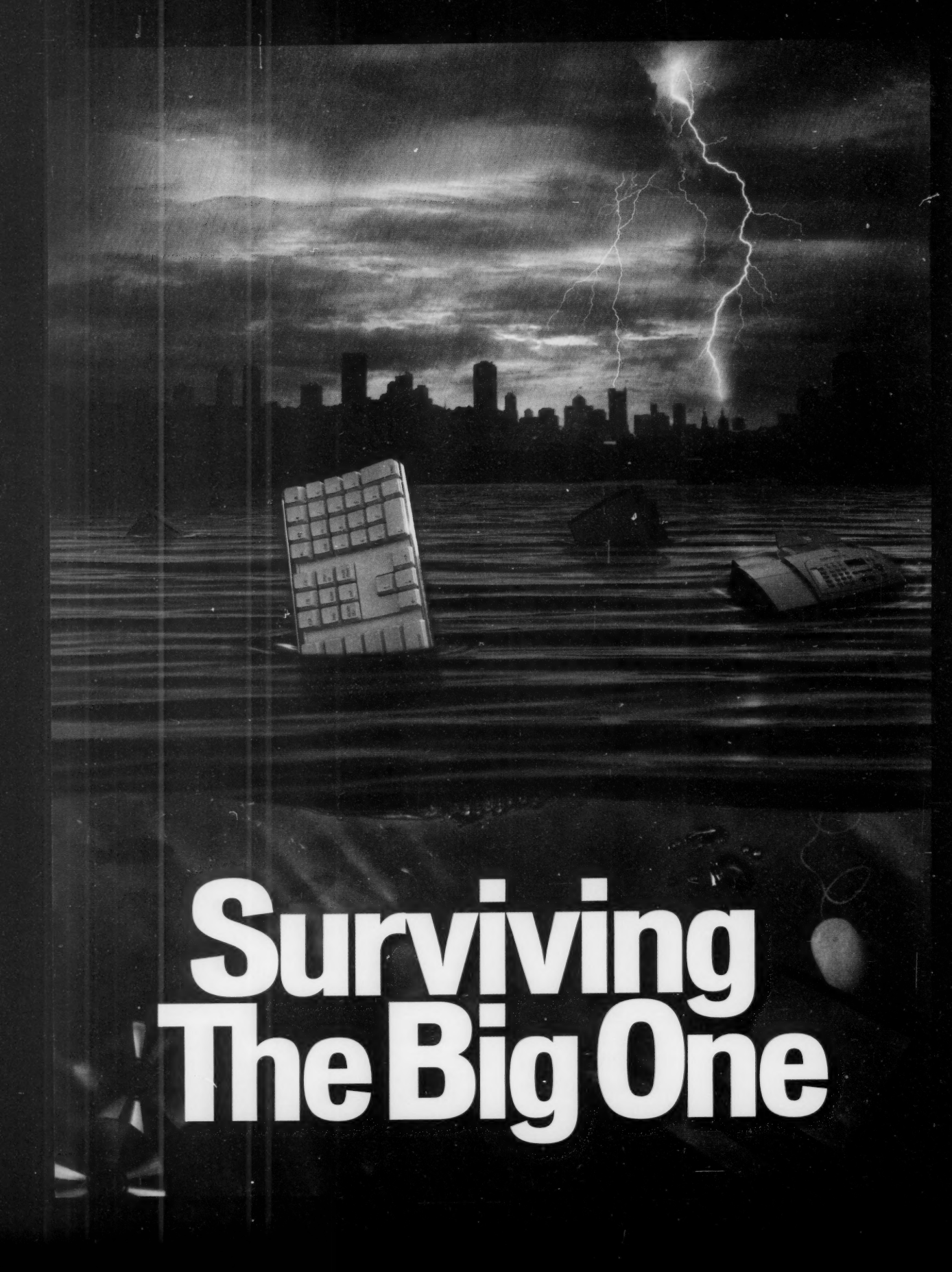
Surviving
The Big One

Events like 9/11 and Hurricane Katrina have brought **disaster** to IT's doorstep. But many companies are **still applying old strategies** to new disaster scenarios.

BY MARY K. PRATT

HERE'S A tricky question: Could your company operate during a flu pandemic?

Nearly 3,000 financial services organizations tested their answers to that question with a disaster drill last September. The exercise showed that the financial sector could continue to operate during a pandemic, but it also revealed stress points throughout the industry. For instance, many recovery plans laid the groundwork for employees to telecommute — a smart move in a scenario that could leave thousands homebound — but the existing infrastructure couldn't handle the increased traffic.

"When you have [so many more] people working from home, the Internet is going to slow to a crawl, and that's if it's even recoverable in all parts of the country," says Nick Benvenuto, managing director and global head of business continuity at Protiviti Inc., a risk management consulting firm in Menlo Park, Calif.

That drill highlights the status of many companies vis-à-vis disaster recovery: They have disaster plans, but those plans aren't adequately designed to handle an actual event.

Instead, many business executives, including top IT managers, are relying on old procedures and technologies that might work for small-scale, brief disasters — a regional power outage, for example — but would fall woefully short during a catastrophe like another major hurricane or terrorist attack.

Moreover, many companies can't claim to have real confidence in their disaster recovery plans, either, because they fail to test and update those plans often enough to guarantee that their procedures and technologies are keeping pace with business changes and growth.

In a 2007 report from Cambridge, Mass.-based Forrester Research Inc., only 33% of 124 data center decision-makers surveyed said they believe they're very prepared to recover their data centers in the event of a failure or disaster. Meanwhile, 37% said they were prepared, 27% said they were somewhat prepared, and 3% admitted that they weren't prepared.

However, there are leaders out there. In particular, organizations that have survived recent, massive disasters have internalized their hard-earned lessons in recovery and are now better prepared for what might come next. (See "Disaster Survivors," page 26.)

GAINING ATTENTION

And the news isn't all bad. Experts say that although companies need to work harder on disaster recovery planning and testing, they're still doing better than they have in the past.

"If you went back 10 years, things were far worse. There has been great improvement," says Jonathan Gossels, president and CEO of SystemExperts Corp., an IT compliance and network security consulting firm in Sudbury, Mass. "But not enough companies are doing enough."

Although preparedness varies greatly from industry to industry and from one company to the next, Gossels says there are several factors that contribute to an organization's failures in disaster recovery preparation.

"It's expensive, it falls below the priority line, and it doesn't generate revenue. It's seen as just an ongoing high cost. It's natural for companies to do as little as they can get away with," says Gossels. "It's human nature to expect that we'll see this area underfunded."

In a recent survey conducted by Gartner Inc., more than half the 359 participants from the U.S., Canada and the U.K. said they planned for natural disasters, power outages, fires, IT outages, computer virus attacks, and failures at key service providers. And 50% of the respondents said they planned for terrorist attacks.

But the survey also found that less than half have plans for dealing with labor strikes, civil unrest, denial-of-service attacks or pandemics. And only 45% have plans for long-term facility outages — that is, outages lasting more than a week.

Given these findings, Gartner analyst Roberta Witty questions whether disaster plans are adequate, considering the fact that some recent events, such as Hurricane Katrina, took out power for much longer than a week. Witty says organizations also fail to adequately plan for disruptions in services provided by third parties.

Companies are taking note, though. Forrester analyst Stephanie Balaouras says Hurricane Katrina was a louder wake-up call for businesses than the Sept. 11 terrorist attacks. She says most companies don't operate in major urban areas or near landmarks that could be terrorist targets, but they do see themselves as vulnerable to weather-related catastrophes and other natural disasters.

But Balaouras points out that the vast majority of business disruptions aren't caused by big events like hurricanes. It's the more mundane scenarios, such as power outages, IT failures and human error, that are more likely to bring down a whole IT infrastructure.

Companies shouldn't focus on a specific event, however, Balaouras says. They need to plan for the resulting disruptions. After all, anything from wildfires to floods can knock out power, take out infrastructure and scatter workers.

"This really needs to become part of change management," Benvenuto says. "Whenever you add a new process, you need to think about how it affects disaster recovery." ■

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WILLIAM DUKE

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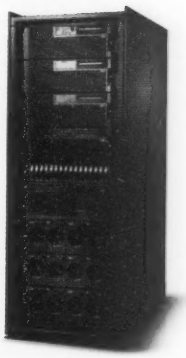
_INFRASTRUCTURE LOG

_DAY 85: Woke up in a desert. Our data center is overheating so badly it's playing tricks on our minds. We have to do something about these energy costs. But how? Our processing needs keep growing.

_Maybe that sphinx over there has an answer.

_DAY 86: I'm taking back control with IBM. Their services can help us diagnose inefficiencies and build a more energy-efficient data center. A virtualized IT environment can improve our server and storage utilization while their power management capabilities help us actively manage our power usage.[1] And thanks to IBM's advanced cooling solutions, our data center is cucumber cool.

_Good thing. My wrinkle-free shirts really aren't very breathable.



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Watch a Webcast on data center energy efficiency at:
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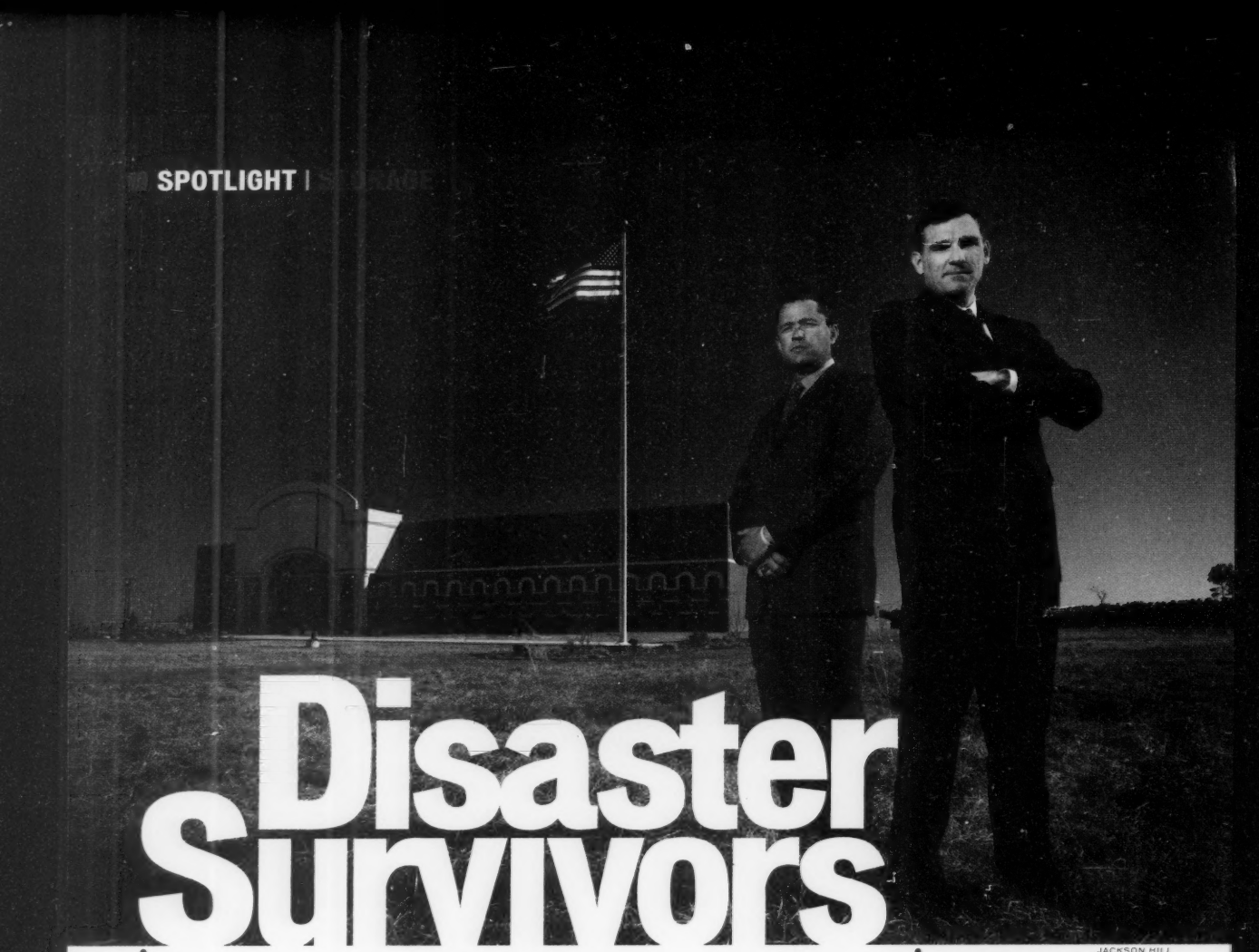

Disaster Survivors

JACKSON HILL

These **six organizations** endured enormous disasters. Their **hard-earned lessons** have made them better prepared for what's next.

Hancock Bank

Its headquarters a complete loss in Katrina, the bank built a rugged data center farther from the coast.

BY ROBERT L. MITCHELL

IN RETROSPECT, putting a data center on the fifth floor of a glass high-rise office building just a half-mile from the Gulf of Mexico wasn't such a good idea. During Hurricane Katrina, Hancock Bank's Gulfport, Miss., headquarters building was devastated. Today, the most visible change to the bank's disaster preparedness plan is a new $16 million data center farther inland, but that's just one of many changes Chief Operating Officer Shane Loper says will pay off when the next disaster strikes.

The bank now operates on a "4/24" plan that requires customer-facing systems to be operational within four hours of a disaster, and core business systems within 24 hours. "All of the things we are doing come with a price," Loper says. But because the bank is regional, it needs to ensure that a local disaster in Gulfport won't affect its other branches.

"You want to locate your data center in an area that has the lowest threat profile possible, and that means separating it from the headquarters offices and away from downtown areas when possible," says Stephanie Balaouras, an analyst at Forrester Research Inc.

Hancock's new data center is still in Gulfport, but the hardened, lights-out facility is farther inland on the area's highest point. It can withstand 200 mph winds, can be managed remotely and has dual 820-kilowatt generators with enough fuel to stay up and running 24 hours a day for a month.

The old data center's server infrastructure had been mostly consolidated using VMware virtual machine technology when Katrina struck. "Using more

« Shane Loper (left) and Ron Milliett have ramped up Hancock Bank's disaster preparedness plans since Katrina struck.

advanced techniques such as server virtualization to enable high availability and disaster recovery are good best practices," says Balaouras. The virtual server files and associated data were backed up and could be quickly set up on hardware in a backup data center in Chicago. But the challenge was getting them to Chicago and loading them from tape.

"[Just] the tape-restoration process required 16 hours," and 36 hours elapsed before all systems were up and running, says Jeff Andrews, vice president and manager of information security.

The new system replicates virtual server files and data over an MPLS network, reducing the boot recovery process to about 45 minutes.

Disaster drills have also changed. "When I was driving up to Chicago [after Katrina], I was scared to death, because I knew there were things we never tested," says Andrews. Today, everything is tested under a full production load.

On the front end, many employees have remote access and use PCs to access hosted virtual desktops.

But technical issues aren't what worry Ron Milliett, director of IT services. "Communication . . . was the single biggest problem we had," he says. The bank did have a few phones that used Sprint Nextel Corp.'s iDen push-to-talk technology, and they did work, so the number of those devices was upped to 250 after the storm. But the bank plans to eventually replace them with phones that use mobile broadband technology.

The bank also signed on with the U.S. Department of Homeland Security's National Communications System. NCS programs allow companies providing critical infrastructures to get priority on land-line and wireless phone calls during a disaster and on getting critical lines fixed.

Hancock Bank also keeps a database of employee contact information and has deployed an alert system that can push messages out to phones and e-mail accounts. Alternatively, employees can call a toll-free number to hear updates during a disaster.

But the best technologies and procedures won't work if staffers lack clothing, food and shelter, says Loper. "We had leadership, but they were running the business," he says. Meanwhile, many employees were arriving at work with only the clothes on their backs. So the bank identified an emergency logistical coordinator at every location.

"You want the company taking care of the basic needs so that your associates are focused on getting the business back up and running," Loper says.

"We are many levels above where we were," Loper says, but he also expects that when the next disaster strikes, the bank will still face problems no one had anticipated. "Once the core things get resolved, there are thousands of fires that have to be stamped out every day," he says. But, Loper adds, he'd much rather be stamping out the little fires than fighting the big ones. ■

» F.A. Richard & Associates Inc.

Since Katrina wreaked havoc on its telecommunications system, this insurance firm now reroutes toll-free numbers on its own. BY STACY COLLETT

David Richard, vice president of IT, was pleased with his team's recovery response after Hurricane Katrina ravaged F.A. Richard & Associates Inc. (FARA) in Mandeville, La. The August 2005 disaster displaced 500 workers and uprooted operations to Baton Rouge – about 70 miles west.

Uninterrupted business operations are very important to this insurance services firm, and employees were able to access critical applications through the Internet. FARA's main systems were up and running from Baton Rouge in one day.

Yet communication proved to be the bigger challenge. Cell phones wouldn't work, partly because they all had the same area code. "Our original plan didn't anticipate that," Richard explains. Luckily, the company's toll-free number stayed up, but the business's e-mail service had gone down. "The server was working, but we had dual ISPs and lost both of them," Richard says.

So after Katrina, FARA arranged to take control of its communications in emergencies. "Under extreme circumstances, we just can't assume [phone and Internet service providers] were going to be there and get to it right away," Richard notes. "Where would we stand in the line?"

So the company bought a second server for its data center in addition to the main server in its corporate office. Now, FARA can make DNS changes to redirect SMTP-type traffic to the second server. "E-mail is a mission-critical application for us," says Richard.

FARA also arranged to handle the rerouting of its toll-free phone services on its own during emergencies. "Prior to Katrina, we called upon our vendors to make routing changes to our 800-number services, our toll-free inbound," Richard explains. "Since Katrina, we wanted more control. So if a vendor didn't answer the phone, we still wanted to make those changes." FARA's long-distance carrier set up a Web-based system that it can use to redirect its own toll-free lines.

The team has also signed up with various cell phone providers using multiple area codes.

Communication with customers who receive benefits payments also had to be reconsidered. FARA prints and mails compensation benefits checks to thousands of injured workers. Richard hadn't anticipated that postal service would stop for weeks following Katrina.

"We had to figure out how to find these people and get their money to them," Richard says. The company turned to Western Union and wired money to customers using code numbers to verify their identities.

Today, FARA offers Automated Clearing House direct-deposit service to people with bank accounts.

As the disaster unfolded

Continued on page 30

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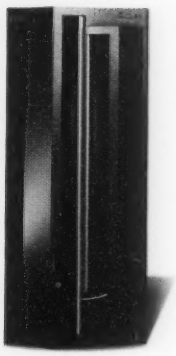
_INFRASTRUCTURE LOG

_DAY 94: We don't have the insights to maintain our IT service-level agreements! We can't deliver against our objectives! How are we supposed to do our jobs in the dark?

_Gil rented a giant searchlight to give us a little "visibility." He's also temporarily blinded all the administrators.

_DAY 96: I found a better way. Hardware, software and services from IBM Service Management give us the integrated visibility, control and automation we need—like dashboards that give us insights to manage against business objectives. We can improve governance and minimize risks. And we can keep tabs on the status and health of our services at each stage of their lifecycle while tracking our SLAs in real time.

_Now if we could just get our vision plan to cover "rampant idiocy."



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Continued from page 27

over weeks and months, the mass exodus from New Orleans to cities like Baton Rouge and Houston created traffic and housing problems. So FARA executives decided to look northward.

"Nashville had the most hotel rooms available and [was] the least-talked-about destination for our local evacuee population," says Richard. "Going forward, we've expanded our Nashville office to accommodate essential teams. Everyone knows that's where you should go."

Some IT staffers will still travel to the Baton Rouge data center, but Nashville will accommodate the most employees and their families. "We've identified vets, kennels, everything, as well as different routes to get there by car," Richard says.

FARA also purchased a mobile response unit for its property claims management services operation. The air-conditioned vehicle sports a satellite dish and supports VoIP, fax and Internet connectivity. It also has an office with a kitchen.

"It's ready to hit the road and go into affected areas and provide specific insurance services," Richard says.

With remote access to Web applications, communications control and efficient disaster-recovery centers in place, Richard says FARA is ready for any disaster.

"Our industry is talking about pandemics – how would we deal with not just natural disasters, but these other types of disasters," Richard says. "If we have control, we could do this ourselves." ■

Collett *is a* Computerworld *contributing writer. Contact her at Stcollett@aol.com.*

» Tulane University

Following Katrina, the university's top priority was getting its people paid. Now its payroll system is safer than ever. BY GARY ANTHES

THE GOOD NEWS was that Tulane University's IT disaster plan specified how to prepare for a hurricane. The bad news was that it didn't say how to recover from one.

"We had a plan that said when there was an impending storm, how we'd shut things down, how we'd do the backups and how we'd protect the equipment — and all that worked fine," says CIO Paul Barron, discussing how Tulane girded for Hurricane Katrina. "But we hadn't thought through what we'd do if the disaster actually occurred."

But Barron and his IT cohorts have thought about that a good deal since the deadliest and costliest hurricane in U.S. history slammed into New Orleans on Aug. 29, 2005. They have sharpened the preparedness part of the plan, laid out in detail how to recover from a storm and extended the plan to cover other kinds of disasters besides hurricanes.

After Katrina, backup tapes prepared before the storm were recovered intact, but the power was out in the data center and nobody knew where to send the tapes for processing. No backup site had been prearranged. Fortunately, SunGard Availability Services was able to offer some spare computer capacity in Philadelphia, even though Tulane didn't have a contract with the unit of SunGard Data Systems Inc. After considerable debate, the tapes were sent there.

Getting payroll up and running again was the university president's top priority. "That would make a statement that we were still here and that the university was still functioning," says Barron. "Plus a lot of people needed the money." Tulane missed its Aug. 31 payroll, but after a valiant effort, it was processed in Philadelphia, just four days late, he says.

The next time disaster hits, there are not likely to be any missed payrolls, says Barron, who was appointed CIO in October 2005. Tulane now has a rapid-recovery contract with SunGard that guarantees capacity when needed in an emergency. The contract also provides for delivery of a mobile data center that could be used for local processing. And instead of moving backup tapes to a site in New Orleans once a week, tapes now go to Baton Rouge three times a week.

Leo Tran, Tulane's information security officer and the chief architect of the new recovery plan, says IT now has a detailed "directory of critical resources" — hardware, software and people. The inventory can be used as a checklist before and after a storm to ensure that nothing is forgotten, he says. In addition to the more frequent tape backups, he says, every person in IT now has a USB key to which they can back up their own critical information so they can take it with them when a disaster threatens.

Coming up with better disaster preparedness and recovery plans was mostly a matter of hard work and attention to detail, Tran says.

Barron says no matter how well thought out a plan is, it should never be considered the final word.

"Every year now, in July, at the start of hurricane season, we sit down with the plan and see what we need to change," Barron says. "We go through all the scenarios again." ■

TULANE UNIVERSITY

» Tulane's Reily Student Recreation Center served as a shelter for the emergency team during Hurricane Katrina.

» Estes Express Lines

Hurricane Gaston soaked its systems. Now the trucking company mirrors its data in sunny and dry Arizona. BY JENNIFER McADAMS

ESTES EXPRESS Lines Inc. faced a host of woes when four feet of water poured into its first-floor data center during the summer of 2004. That was when Hurricane Gaston moved off the Atlantic Ocean and plunged inland to sock Richmond, Va. The storm stalled over the city for hours and caused unprecedented damage.

Estes' headquarters were hit especially hard in a disaster that escalated rapidly. Windows shattered, a major generator exploded, and company executives watched helplessly as 185 terminals used to direct the operations of more than 20,000 tractor-trailers just died. All told, the storm left Estes with $16 million in hardware losses.

Since then, IT executives at the Richmond-based trucking giant have hustled to make sure the company is far better prepared should a disaster of any kind strike again. "We are not distinguishing between different types of disasters we might have to endure. We are concentrating on how we would run operations, regardless of what might happen to our facilities in Richmond," says Dick Cosby, systems administrator in Estes' electronic data processing services department.

Estes executives realized that in its effort to guard against potential damages, the company should charge forth on several fronts and blend both new and traditional storage technologies.

For instance, Estes pieced together a new infrastructure, complete with software that allows data to be whisked off-site immediately. The new architecture is built around IBM System i platforms and wraps in the vendor's System Storage DS8100 disk systems and TotalStorage Enterprise Storage Servers. Associated software includes FlashCopy and the Backup Recovery and Media Services application, also from IBM.

In settling on the components that would support Estes' new storage and business continuity plans, company officials decided without hesitation to mirror the new architecture in a hurricaneproof backup site in Mesa, Ariz.

"If we lose a building in Richmond, users can now get access through the Internet or a VPN connection to our systems in Arizona," says Cosby.

Along with these measures, Estes tightened its resolve to use traditional tape-based backup, both to keep disaster recovery costs down and to serve as an alternative if all else should fail. "You are out of your mind if you think you can live without tape," Cosby says. "It makes zero sense to put up an all-SAN solution with data de-duplication. It is very expensive and not nearly as reliable."

Ongoing dedication to tape backup is common among large corporations, says John Webster, an analyst at Illuminata Inc. in Nashua, N.H.

"A majority of large businesses are still using tape, but whether tape is a growth opportunity is very much up for discussion," he says. "Tape is certainly under fire as disk solutions continue to excel. Also, there is now a renewed interest in opti-

» Hurricane Gaston poured four feet of water into Estes' data center in 2004.

cal solutions, which have improved vastly in performance."

Yet for Cosby and other Estes executives, tape provides a level of comfort, as does the knowledge that the company has made every effort to insulate operations from future disasters. Cosby urges others not to tempt fate and wait for a crisis before they begin thinking through the steps it would take to stay afloat during an emergency.

As an example, he points to the fact that hardware and software damage might well pale in comparison to the public relations nightmare and credibility loss that could result if systems remain debilitated for a significant length of time.

"All of a sudden, we were off the air, and it would be hours before anyone knew anything about what had happened to us," he says, reflecting on the effects of Hurricane Gaston. "We learned from this experience that all of the precautions we have now put in place don't cost nearly as much as being out of business for a week."

Based on that experience, Cosby further advises others to act as if the worst may transpire today or tomorrow.

"You've got to plan for total disaster, and then you've got to test it," he says. "The way most storage products work these days, there is the ability to test main applications anytime. Make sure you do that." ■

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Marriott International

Pin-to-pin and texting proved reliable during Katrina. So when Rita hit, employees were briefed and ready. BY STACY COLLETT

Marriott International Inc. has found itself in the middle of some of the world's worst recent disasters. It had dozens of properties damaged in Hurricane Katrina, its World Trade Center hotel was destroyed in the Sept. 11 attacks, and its hotel in Jakarta, Indonesia, was bombed in August 2003, to name a few. Even recent accidents have affected its operations. For example, February's undersea cable cut in the Persian Gulf disrupted Internet service to Marriott hotels in the region.

"We have been tested as a company in nearly every natural and manmade event that you can think of over the last 10 years," says Wendell Fox, senior vice president of shared services.

Bethesda, Md.-based Marriott's crisis response teams have learned that no two disasters are exactly alike and each offers its own lessons. But with the right people, processes and governance in place, it's possible to be better prepared for whatever the next disaster might be.

Take Hurricane Katrina, for example. Though Marriott's crisis teams were prepared for the storm, its magnitude and the subsequent isolation of the affected area because of flooding surpassed their expectations.

As Katrina rolled northward through the Gulf of Mexico, crisis teams made sure that all systems were backed up and that all generators were working properly. They took a detailed inventory of assets on-site for insurance purposes and established shutdown procedures. But not even those precautions could protect the hotels. Some 63 Marriott properties in the region were flooded, and many faced security issues. Network circuits were knocked out, and communication was difficult.

The disaster highlighted some crucial recovery steps. For example, Page Petry found that when assessing a property's needs, the needs of employees personally affected by the disaster also have to be considered. "Have the right complement of associates coming in on a task force" from outside the region, says Petry, Marriott's senior vice president of information resources, North American lodging field services.

PUT TO THE TEST

After Katrina, Marriott created a rapid-response plan to pull together people with a cross-section of skills from various regions. "Once you identify the situation, you can determine what skills you need and then deploy," Petry notes.

And make sure the recovery teams use a mix of cell phones and BlackBerry devices with service from different carriers, she advises.

"Different components would fade in and out at different times as the city came back online. Our challenge was to get a good handle on what technologies were up," Petry explains. BlackBerry pin-to-pin communication and texting proved to be the most reliable.

Just two weeks after Katrina, that lesson was put into practice when Hurricane Rita struck the region. Employees were quickly educated on the BlackBerry features, which became part of the disaster recovery plan. "So it was that immediate sense of turning something around and putting it into practice," Petry says.

Indeed, communication is an ongoing challenge. The team recently deployed MessageOne Inc.'s AlertFind service, which quickly notifies crisis team members via phone and e-mail in a matter of minutes.

"We conduct tests quarterly and can consistently contact 90% to 95% of members in a half-hour time frame," says Al Sample, senior vice president of client services and head of the information resources crisis team.

Contact with key vendors, particularly telecommunications providers, was another component of recovery. "Everyone is competing for their resources, and you want to have those requests in," Petry says.

Having an executive-level crisis team leader who can make quick decisions "on the spot and with the right input" was a key success factor in recovering from Katrina, Sample says.

As part of Marriott's formal governance process, the crisis team includes representatives from the human resources engineering, medical, legal and operations departments. The leader includes only those key people in decision-making meetings or conference calls, with extra input as needed.

"[Say] we need to buy supplies or have a security firm go in and secure a hotel. Most of those are financial decisions," so having an executive who can make that call is important, Sample adds.

"Don't plan for discrete scenarios," Fox advises. "Have processes that can respond to any event."

You may think of disaster recovery in terms of tornados, floods or earthquakes, he warns, but your next disaster probably "won't be anything on your list." ■

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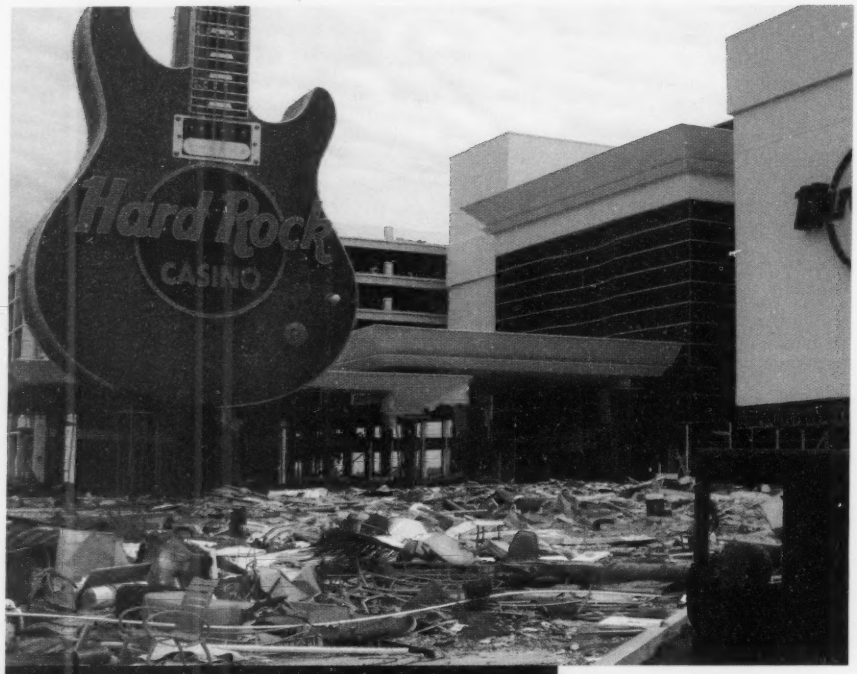

« The Biloxi Hard Rock suffered severe damage just days before its grand opening.

Hard Rock Hotel & Casino

Cell tower damage in Katrina's wake left many people disconnected. The casino's plans now call for a specified meeting place.

BY JENNIFER McADAMS

HARD ROCK Hotel & Casino in Biloxi, Miss., was two days shy of its grand opening when company executives realized that their first guest would be an unwelcome one. Hurricane Katrina was barreling toward the Gulf Coast town and would pound the casino before the doors had even opened to the public.

The killer storm, which made landfall in Louisiana and Mississippi on Monday, Aug. 29, 2005, caused $148 million in damage to the Hard Rock. Hit hard were the entertainment behemoth's brand-new gaming facilities, which floated fully exposed on a pair of barges in order to satisfy offshore gambling laws. While some IT assets bobbed alongside banks of slot machines on the barges, the main server room was in an office building on land. Yet that equipment proved just as vulnerable in the face of a 30-foot storm surge that caused the Hard Rock to suffer a huge loss.

Equipment located in the casino structure and on the first two floors of the building was lost. And although the main server room was spared, the floor was covered with six inches of standing water.

Looking back on the devastation with no shortage of "Katrina fatigue," Hard Rock executives stand by the plan that kicked into action as the entire area braced for the hurricane. "When we received word that we were in the path of the storm, we immediately began our disaster recovery preparations while continuing to make arrangements to open in a few days," recalls John Murphy, vice president and CIO. "It was quite a weekend."

It was a weekend that entailed some final touches on a pristine architecture, but it was also a weekend marked by updates to the company's "hurricane hotline" and redoubled efforts to make sure sufficient backup tapes and other disaster recovery provisions were on hand, Murphy says.

"We recovered very quickly" from an IT perspective, says Rob Weir, director of technology. "Within two days, we had critical servers back online and were able to process payroll."

"If a similar event were to happen today, we would react in much the same way. We did a lot of things right, but some things we just were not prepared for," says Weir. Among other things, the Hard Rock staffers didn't expect the storm to cause as much damage as it did — especially to the local communications infrastructure. "Cell towers had been heavily damaged, so communicating was accomplished strictly through text messaging and only after several days of total outages," says Weir.

As a result, the Hard Rock has changed its plans for

deploying personnel if it faces another disaster, says Murphy. "We plan to have an assessment team meet immediately at a specified time and place to determine the extent of the damage and the best course of action. Additionally, we all carry car chargers for our cell phones," he says, noting that employees faced a lack of batteries and power.

Preparing for the next disaster has also entailed setting new target recovery times. "Our primary goal was to reduce backup windows by performing disk-to-disk backups followed by copies to tape," says Weir. "We now use an off-site storage facility that picks up our tapes daily for secure storage.

"In making these changes, we drastically reduced our backup window and can now back up approximately 50 servers with over 2TB of data in a few hours," he added. That's a vast improvement over the 68 hours it once took the Hard Rock to complete backups.

The Hard Rock achieved those goals with the help of storage-area networking software from EqualLogic Inc., which was recently acquired by Dell Inc. The company now uses EqualLogic's PS Series SAN array, as well as data management software from CommVault Systems Inc. Those systems host applications like Oracle Corp.'s PeopleSoft financial software.

"Our disaster recovery objectives are well defined," says Murphy. "Our primary systems that must be recovered include financial, payroll and human resources. Recovery times for these systems are critical. If we were to have a complete loss, we now anticipate recovery times to be in the 10-to-12-day range. This would include the time it would take to order new equipment and have it shipped."

A 30-foot storm surge left destruction in its wake.

Although Katrina prompted the Hard Rock to take an even deeper look at disaster recovery, Murphy emphasizes the company's determination to look forward.

"Simply put, it is just time to move on," he says. "However, it is important that we remember the lessons learned during the storm, so that we may be better prepared next time." ■

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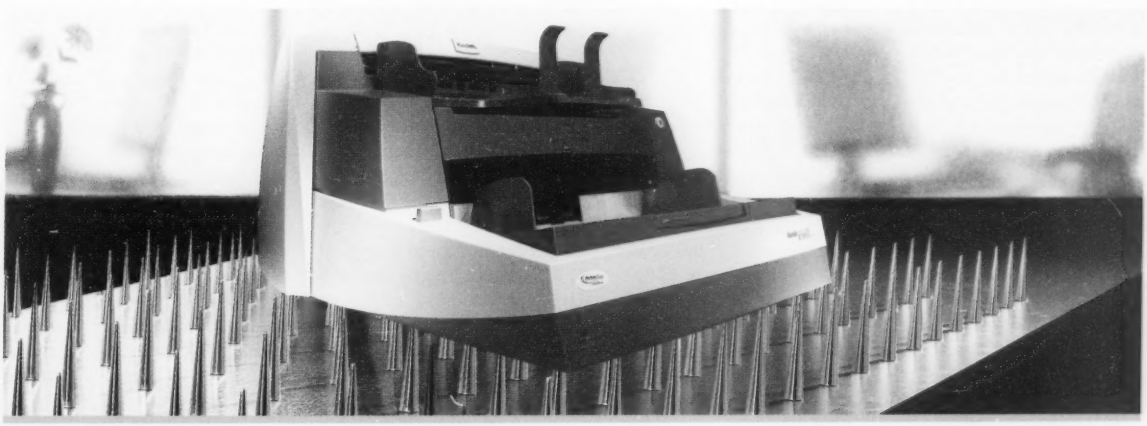

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SPOTLIGHT | STORAGE

Get the Word Out

Your disaster recovery plan is worthless if your people aren't clued in to it. Here are some sure-fire ways to make everyone listen.

BY THOMAS HOFFMAN

LAST NOVEMBER, a fire broke out in one of the buildings on ISTA Pharmaceuticals Inc.'s main campus, forcing about 50 employees to move to another location on the property. After the building's sprinklers kicked in, the entire network had to be shut down because the water threatened the equipment carrying the company's inbound data traffic.

Managers and employees at the Irvine, Calif.-based ophthalmic pharmaceutical company handled the situation with composure, says IT Director Keith Bereskin. The company's network and core applications were back online within two hours, and only 10 of the affected employees had to stay away from their offices for more than three hours, according to Bereskin.

Not bad, "considering it wasn't something we formally talked about," he says.

ISTA's "mini-disaster" happened to coincide with a disaster recovery gap analysis being conducted at the company. In that analysis, a consultant discovered that the IT department, which oversees disaster recovery coordination, and the business divisions needed to communicate more effectively, says Bereskin.

The fire and the subsequent analysis helped spur ongoing discussions between Bereskin and his peers in various business departments to determine what their expectations would be during a recovery. Among other things, they're working to identify the data they would need right away and the systems and processes that would have to be restarted immediately.

"People have said to me that we should have had these discussions previously," says Bereskin. Now they do; Bereskin says he coordinates disaster planning meetings with his business peers several times a year.

The situation at ISTA highlights the types of communication problems that often exist among disaster recovery managers, business executives and line workers, according to disaster recovery experts. "The people side of disaster recovery planning is often overlooked," says John Linse, director of business continuity services at EMC Corp. At many organizations, when it comes to communicating disaster recovery plans, "there's almost this 'shoot, ready, aim' kind of approach," says Linse.

For instance, one of EMC's Midwestern customers didn't have an effective disaster recovery plan in place when it suffered a power outage last June, so a $7-an-hour security guard ended up being the one who made the decision to send home the 1,300 affected employees. The outage lasted two days and cost the company $1.3 million in business, including estimated lost revenue for orders that couldn't be taken. Afterward, EMC helped the company craft a business continuity plan that included identifying key business processes that need to stay up during a disaster — and which people are responsible for them.

TOOL TIME

At Austin Energy, CIO Andres Carvallo says the purchase of a disaster recovery planning tool was an essential element in bringing key decision-makers together to craft a recovery plan in late 2003. Using the Living Disaster Recovery Planning System (LDRPS) from Strohl Systems Group Inc., Carvallo and Austin Energy's disaster recovery manager worked with supervisor-level business process owners to identify which processes needed to be recovered and when.

"As you go through this business by business, you populate the software with business processes and the people who need to be involved in the decision-making," says Carvallo. "In our case, 1,600 people are impacted by the tool."

Although LDRPS is only one component of Carvallo's effort to communicate the disaster recovery plan to his fellow Austin Energy employees, he says it has played a big role in helping the utility map a strategy and get the message to resonate with its staff.

Since Austin Energy deals with power outages on a regular basis, disaster recovery is already embedded

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into its culture, but Carvallo says that prior to his arrival at the utility in early 2003, business continuity "really wasn't understood as a responsibility of every line of business. So we had to drive this companywide."

LDRPS has helped Carvallo achieve that goal because it can track the percentage of the disaster recovery process that each manager is responsible for. "It helps drive this whole notion of accountability," he says.

FIELD TRIP

Carvallo's approach to engaging the decision-makers and line managers ultimately responsible for executing key business processes underscores the importance of spreading disaster recovery planning to all corners of an organization.

One way to get the word out is by organizing a field trip. Shortly after Vinny Licht became CIO and took over disaster recovery responsibilities at Tauck World Discovery five years ago, he arranged for employees to visit the Norwalk, Conn.-based tour operator's disaster recovery site.

The turnout and response "was huge," says Licht. "[Employees] know we have a site and [that] if there's a disaster, everyone should go there."

"To have a really effective plan, you have to wire it into the DNA of the organization," says Rod Masney, chairman of the Americas' SAP Users' Group and global director of IT infrastructure services at Owens-Illinois Inc., a Perrysburg, Ohio-based glass container manufacturer.

Five years ago, when he was employed at a different company, Masney worked with business leaders to craft a disaster recovery plan that included creating recovery procedures for each business unit.

To engage some of the senior business managers who were "less passionate" about disaster recovery planning, Masney and other business leaders drew them into practice drills "so that they could see, hear and understand our objectives for key functional areas," he says. Involving stragglers in the practice tests helped convince them of the need to document and test disaster recovery procedures within their areas of responsibility, says Masney.

To help make it easier for slow-to-respond managers to develop business continuity plans for their departments, Masney and other members of the disaster recovery planning group provided them with business continuity software templates that other business units had already developed. The templates included a guide to help managers identify which people in their organizations should respond to help get operations up and running again.

Most of the dawdlers "got on board very quickly," says Masney. But that response wasn't universal.

"We had one functional area where we had trouble getting those folks on board," he says. "They didn't really understand what we were trying to do. Perhaps we weren't providing the right type of education to them."

BATTLING INERTIA

Some of the managerial and employee resistance to disaster recovery planning can be chalked up to the fact that business people face other day-to-day demands that often carry a stronger sense of immediacy, says Jim Michael, treasurer of Share, an IBM users group.

"Business continuity planning is like life insurance: It's not sexy, and nobody wants to talk about it until it happens," says Larry Bonfante, CIO at the U.S. Tennis Association in White Plains, N.Y.

An effective way of communicating a disaster recovery plan to employees is to summarize the critical business processes that need to continue and explain how they're being prioritized and why, says Michael, who is also an IT manager at a California state university. "You don't hand them a 140-page document and say, 'Go figure this out.' You're respecting the fact that this is a complicated process and that you're trying to make it clear to them," he says.

Like Carvallo, Michael has stressed the importance of engaging the line managers who are closest to the business processes being addressed.

Says Michael, "The plan is only going to be as effective as [business managers] help the plan to become."

Including front-line employees in practice drills not only ensures that the plan works; it shows people what to do. "It's a fire drill," says Michael. "I know what to do because I've practiced." ■

Calamity Check

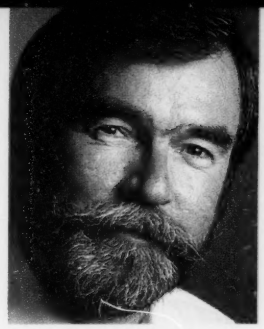
Practice doesn't guarantee success, but test drills certainly help disaster recovery managers and project teams to identify gaps and areas for improvement in their organizations' disaster preparedness. Practitioners offer the following checklist of what to do (and what not to do) during a test run.

- DO: **Make sure that key decision-makers and rank-and-file employees alike have access to the disaster recovery plan or a cheat sheet,** even if it's a simple set of instructions they can keep in their purses or wallets.
- DO: **Before the drill starts, identify a single leader** to communicate to employees what needs to be done.
- DO: **Establish clear objectives for the exercise. Understand what is meant by success.** If systems aren't recovered in time or you fail some other aspect of the test, it's not a failure as long as your organization learns from it.
- DO: **Make sure you have mission-critical data stored at a location away from your primary data center** and pull that data into test drills.
- **Practice for just one type of event.** Disasters come in all shapes and sizes. Practice for different scenarios (for example, a network outage or a pandemic) to help employees understand the impact of different types of disasters and what their roles are expected to be.
- **Use your test drill to figure out your communication plan.** Testing communication should be a key part of your drill. Disaster recovery team members should have BlackBerry and cell phone contact information for key personnel, and they should keep that information both at work and at home.
- **Play the test drill as a low-key event.** Even though it's only a drill, behave as though it's a real crisis. Practice the way you want it to play out in real life.

– THOMAS HOFFMAN

Mark Hall

Emergency Situation



WHEN DISASTER STRIKES a community, first responders race to the scene. But where does everyone else affected by the event go? To the hospital.

Whether it's a hurricane, a fire, a flood, a factory explosion, a 108-car pileup on Highway 99 in California or a 20-car crash on I-94 in Indiana, hospitals are where people congregate. That's where the extent of the human damage is ultimately calculated and communicated to the world at large.

Hospitals are the hub for a community reeling from a catastrophe. They are where individuals seek answers to questions about those who survived and those who did not. People expect doctors, nurses, technicians and other staffers to be on duty and ready to heal and comfort those affected.

Medical authorities understand this. That's why the American Hospital Association requires its nearly 6,000 member hospitals to have disaster preparedness committees that are responsible for planning how they will respond to large-scale emergencies. It's essential that those plans include an effective communication structure.

Hospitals are definitely on the right track, but I'm concerned that their well-laid plans could get derailed.

In the past, many hospitals relied on phone trees to get people where they needed to be. You know, Mary calls John and Sue. They call Bill and Trudy and Donna and Linda. And so on. Sometimes radio and TV stations broadcast calls for emergency personnel to get to the hospital as quickly as possible.

In a pinch, those options are better than nothing. But hospitals have recognized that phone trees and media pleas have limitations. And the AHA thinks a more comprehensive and manageable approach to emergency communication is necessary and — in an era of instant digital communications technology — possible. Therefore, the organization's for-profit subsidiary, American Hospital Association Solutions Inc., last year embarked on a review of 75 companies that offer some form of emergency communications systems.

■ We are becoming wholly dependent upon the wonders of the Internet, yet an errant boat anchor can disrupt Internet communications.

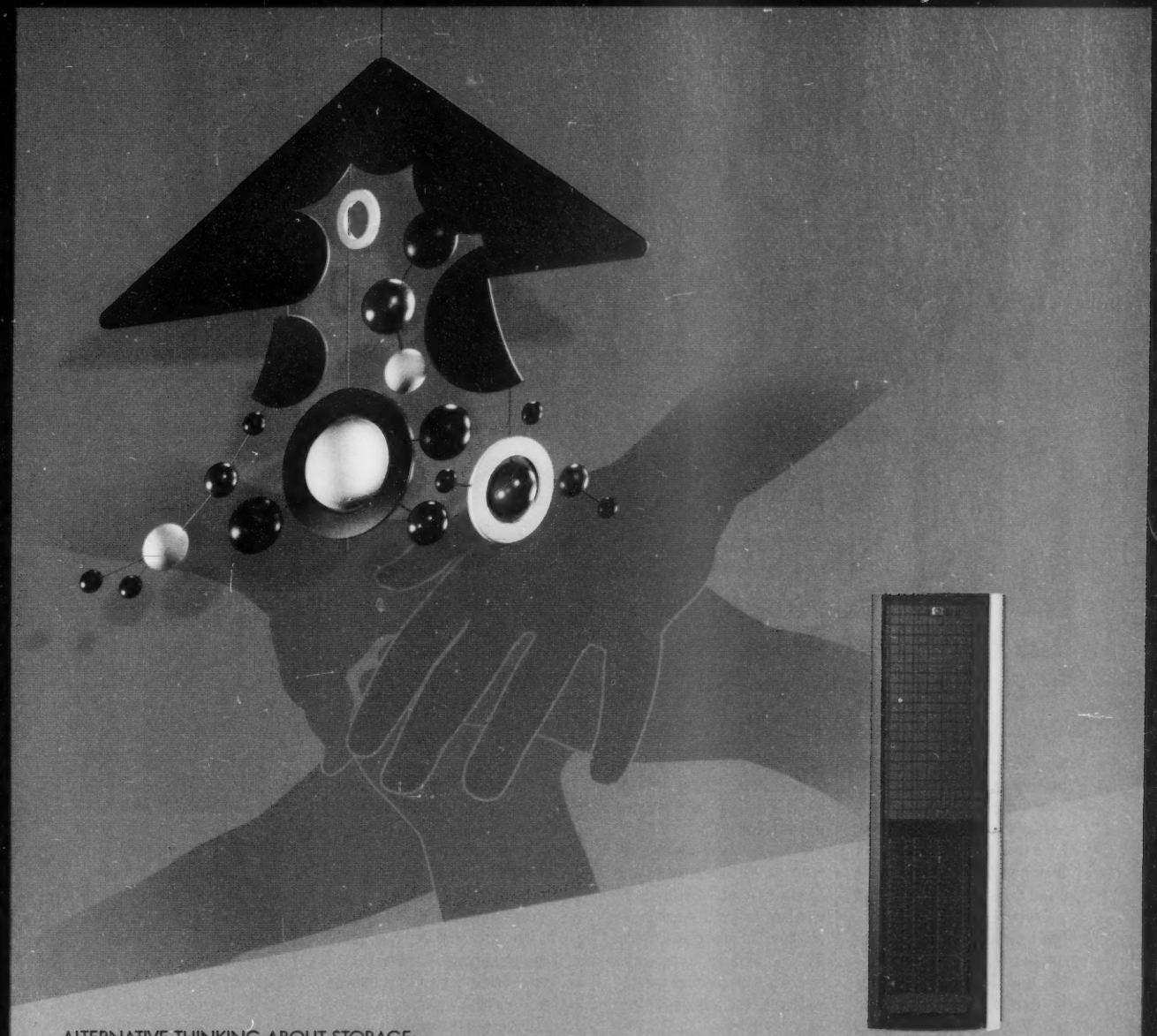
Mary Longe, director of patient flow solutions at Chicago-based AHA Solutions, worked with consultants at Ernst & Young to analyze those vendors' products and services and eventually decided to recommend that hospitals use an offering from National Notification Network LLC, which does business as 3n.

Glendale, Calif.-based 3n has a software-as-a-service system that's designed to reach people instantly in multiple ways. If you're, say, a perfusionist (a specialist who runs the heart-lung machine during cardiac surgery) and you aren't answering your land line, the system will track you down over your cell phone, pager, BlackBerry or whatever method is listed in your profile. If you happen to be scuba diving, it'll track down the next perfusionist on the list. At the same time, the system will be contacting doctors, nurses and anyone else needed. As Longe points out, the system will even know if the hospital needs additional nonmedical personnel in a crunch for vital tasks such as getting nonambulatory patients up and down stairwells. 3n's system has links to all kinds of hospital data, so it will know, for example, which floors have beds available. And it's designed to escalate the communications process to include nearby hospitals when one facility is overwhelmed.

Longe likes the fact that 3n has an "active/active" pair of data centers — one in California, the other in Colorado — that use Oracle Streams technology with 15-millisecond bidirectional updates. That setup ensures that the system will be available as long as the Internet has a heartbeat.

That brings me to my one and only concern. As a nation, we are becoming wholly dependent upon the wonders of the Internet. Yet an errant boat anchor was able to disrupt Internet communications in Africa and Asia earlier this year. And as *Computerworld*'s Gary Anthes revealed in these pages in January, ISPs haven't implemented best practices to defend against a concerted online attack. As never before, the condition of the Internet is critical to the health of the U.S. But unfortunately, our plans to keep it healthy are woeful at best. ■

Mark Hall *is a* Computerworld *editor at large. Contact him at mark_hall@computerworld.com.*



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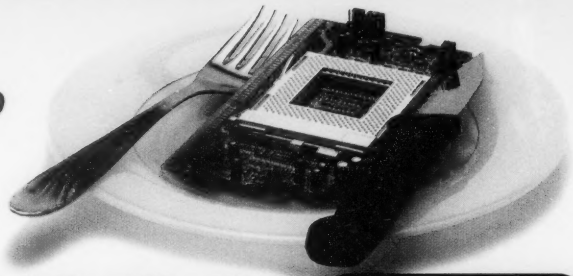

■ Q&A

Andrea R. Nierenberg

The president of **The Nierenberg Group Inc.**, a business consultancy, discusses working with difficult people.

Most people seem to deal with the people who make their lives difficult at work in one of two ways: ignore them and hope they go away, or go over their heads and complain to a boss. Do you see a third way? Ignoring people or going over their heads only leads to conflict – the opposite of what you want to achieve. Negotiating is the way to truly resolve conflicts. Instead of taking those routes, I'd suggest that you take a deep breath, count to 10 and remember your real goal. Then follow these steps:

■ Ask the person to define the problems that trigger their behavior, from their point of view.

■ Ask open-ended questions, take notes, and periodically sum up what the person is saying. Those things telegraph that you're taking the situation seriously. And really listen – with your eyes as well as your ears, paying attention to body language and visual cues. If you don't truly listen, the words will mean nothing. Make sure you have a poker face or an approachable expression so the other person will feel comfortable enough to speak freely. Try to understand the other person's point of view as fully as possible.

■ Be patient and ask how they would handle the situation if your roles were reversed. When you both have looked at the situation from the other side, it will be easier to find a way to resolve the problem. Work together toward a solution; dictating a resolution won't be effective.

Negotiating with people I don't like seems like a lot of effort. What's in it for me? Even though you may not like the person, you need to work with them. If you react to a negative situation by acting negatively, you are letting the negative person infect you, which only pulls you down.

And, of course, every situation presents a learning opportunity. Take the time to ask, What can I learn from this person? I have often said that we learn from everyone we meet; with people we don't like, we learn what not to do.

– JAMIE ECKLE

A Certification For Networking 'Chefs'

Cisco Systems Inc., which is known for offering a range of network certifications, later this year plans to offer a new certification for the most experienced network professionals.

The eight-hour exam is for networking professionals interested in being identified as a **Cisco Certified Design Expert (CCDE)**. The certification, which will be offered late this year, is targeted at very senior-level network architects who have a big-picture view of the network and can design project and integration work to meet organizational business requirements, says David Bump, portfolio manager for certifications and training at Cisco.

Cisco's current Cisco Certified Internetwork Expert certification "is for very experienced cooks in the networking pool. The CCDE would be the chefs," says Bump.

To meet the eligibility requirements for the certification exam, networking professionals with seven or more years of experience must first take a two-hour qualification exam, which Cisco began offering at Pearson Vue testing centers on Jan. 22 at a cost of $300. Cisco hasn't set a price yet for the CCDE certification exams, says Bump.

More information on the CCDE is available on Cisco's Web site. Follow links beginning with the Training & Events tab at the top of the Cisco.com home page.

– THOMAS HOFFMAN

MORE CERT NEWS

Also new among certifications is the **RFID Pro certification** from **Academia RFID.** Visit *www.RFIDacademia.com* for more information.

And **(ISC)²** has introduced an online self-assessment tool, called **studISCope**, for IT professionals. It simulates the CISSP or SSCP exams, offering a personalized reporting system with learning-progress indicators that offer insight into the strengths and weaknesses of a candidate's knowledge.

The tool also provides a readiness gauge that pinpoints a candidate's understanding of the specific areas covered in the exam.

CIOs Going Low-Tech

Gartner Inc. recently asked the largest IT recruiters for insight into what their clients want and why. **The key findings point to an interest in hiring CIOs with knowledge that's much broader than what can be gained from working in IT:**

■ Senior executives **will not require** their next CIOs to have **engineering or computer science degrees.**

■ Senior executives want their next CIOs to have previously **served as a manager of a non-IT business unit.**

■ Senior executives have been **adding non-IT-related duties** to the IT job descriptions of their existing CIOs.

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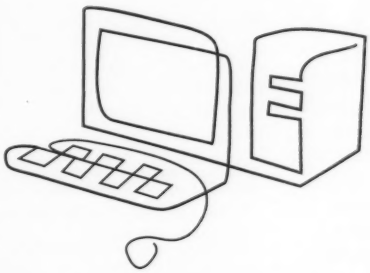

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TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Certifiable

Consultant pilot fish is visiting a potential client, and on the way in he admires the glass-walled server room. It's a remnant of the office's days as the home of a dot-com, just before it went belly-up. But fish notices something odd: There's a guy sitting in there in his shirt sleeves among all the servers. Out of curiosity, fish knocks on the door, and is greeted by a sysadmin – and a gust of hot air, plus the sound of equipment fans screaming at full blast. Did your air conditioning fail? fish asks. "No, it was kinda cold, so I switched it off," sysadmin tells him. "I wanted an office instead of the cubicle they gave me across the hall, but management wouldn't give me one. So I moved myself in here." Later, fish mentions the heat to the VP of IT. "Oh, so *that's* why in every company we've ever visited, their server rooms are like meat lockers," she says. "But every time I brought this up with the system administrator who sits in there, he said that the heat was normal. And since he is MCSE-certified, I thought he knew what he was talking about, so I never argued the point with him."

Your Problem: Me

Boss to IT pilot fish: "You must have training for your job this year!" Fish: Cool, when will you let me take a training class? Boss: "Whenever there's free time." Fish: But because of the work schedule, there *is* no free time. The training class you want me to take is offered only once a quarter. And the last several times you had me sign up for these classes, you made me cancel because of unforeseen problems and emergency installations. Boss: "That's not my problem. The company still requires you to get training every year!"

Simplicity Itself

IT department sends an e-mail blast to users: From now on, everyone will use a single log-in credential for all areas of the network. User pilot fish's reaction: "Yahoo! No more numerous account credentials to keep track of for various subsystems within the domain!" Better still, someone in IT has really thought this through; the single sign-on credential is the same log-in users already know for their e-mail accounts. Then fish discovers the catch: Turns out that before a user can get to the screen to use his single log-in credentials, he first has to go to the subsystem he's planning to use and log in with his old subsystem credentials. *Then* he'll be kicked over to the universal log-in page. "Now the user can apply the convenient single log-in to get into the targeted system," grumbles fish. "Thanks for simplifying our lives!"

■ *Sharky's needs are simple: I just want your true tale of IT life. Send it to me at sharky@computerworld.com. I'll send you a snazzy Shark shirt if I use it.*

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Storage Networking World (SNW), in conjunction with *Computerworld* and the Storage Networking Industry Association (SNIA), proudly presents the 11th SNW "Best Practices in Storage" Awards Program. This program honors IT user "best practice" case studies selected from a field of qualified finalists.

Finalists in each of the following categories are:

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- Fleet Management Limited, Wanchai, Hong Kong
- Livermore Computing, Livermore, California
- Sprint Nextel, Overland Park, Kansas
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- University of North Texas, Denton, Texas

Planning, Designing and Building a Strategic Storage Infrastructure

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- British Columbia Interior Health Authority, Kelowna, British Columbia
- General Motors Corporation, Warren, Michigan
- Infosys Technologies Limited, Bangalore, India
- VaultLogix, LLC, Ipswich, Massachusetts

Selecting and Deploying Storage Networks

- ICICI Bank Limited, Mumbai, India
- Microsoft Studios, Redmond, Washington
- NASCAR Media Group, a full-service production company and broadcast division of NASCAR, Charlotte, North Carolina
- Rockford Construction Company, Inc., Grand Rapids, Michigan
- The University of Maryland, College Park, Maryland

Storage Reliability and Data Recovery

- Gaston County, Gastonia, North Carolina
- Management Council - Ohio Education Computer Network, Archbold, Ohio
- New York Independent System Operator, Rensselaer, New York
- Safeguard Properties, LLC, Brooklyn Heights, Ohio
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Thank you to our "Best Practices in Storage" Judges for SNW Spring 2008:

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- John Webster, Illuminata, Inc.
- Ben Woo, IDC

Program Judges' Criteria

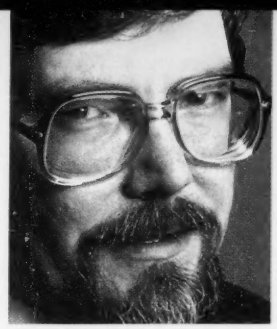
Judges evaluated and ranked the finalists in each category according to their substantiated storage networking solution attributes and achievements against a set of criteria such as:

- Financial return and measurable payback (returns on investment, assets, resources) through created/protected revenue opportunities or cost savings.
- Strategic importance to the business.
- Substantive customer impact (service, retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future storage networking solution initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments, divisions, etc.
- Addresses challenges of data, information and application security, ecovery, business continuity, etc.

■ FRANKLY SPEAKING

Frank Hayes

Beating the Net



YOU CAN BEAT Internet sabotage. Martha Stewart Living Omnimedia did. Several weeks back, I mentioned a 2006 incident in which Con Edison Communications "accidentally hijacked Internet connections to investment houses, a bank, Martha Stewart's publishing empire and the *New York Daily News*." I implied that Martha Stewart was knocked offline. I was wrong.

Here's what actually happened: Just after midnight on Jan. 22, 2006, Con Edison began telling the Internet that it was Martha Stewart. That is, Con Edison erroneously began sending out routing information to redirect Internet traffic intended for Martha Stewart Living Omnimedia to its own servers.

The publishing company was a Con Edison customer. So were other businesses and Internet providers whose routing information Con Edison hijacked at the same time. The result was a mess that wasn't completely cleared up for 18 hours — and some businesses were offline for most of that time.

But not Martha Stewart, whose CIO, Mike Plonski, wrote to me to clarify what happened at his company.

Plonski's secret sauce? No big secret — just network monitoring and redundancy.

Plonski said: "While one of the Internet connections at our corporate offices was impacted by the ConEd issue you describe, we, as a company, are smart enough to have employed redundancy, both by location and carrier, for our network operations. As a result, during this time frame, we simply flipped all of our Internet traffic to run over our secondary line until ConEd resolved their issue."

OK, it was a little more complicated than that. Plonski said his staff spotted the problem through routine network monitoring. There was clearly something wrong with network traffic coming to the corporate office over the Con Edison line. Thanks to the monitoring, the company knew about the problem about 30 minutes after it started.

■ It didn't require rocket science – just monitoring, redundancy and sharp IT staff work.

Because of the type of outage, an IT staffer had to connect and manually switch over to a redundant line. That took another hour.

Total time for the outage: about 90 minutes in the wee hours of a Sunday morning. Total impact: minimal.

An outage? Yes. A knockout? No way.

And handling the problem didn't require rocket science — just monitoring, redundancy and sharp IT staff work.

That's important, because today your business runs on the Internet to at least some degree. With outsourcing, increasingly automated supply chains and software as a service, your business operations will soon be depending on the Internet more and more.

But while you've sold the Internet to your management as a great platform for business, in reality, it's . . . well, shaky. What you want — and need — is stability. What you've got is a global network in which backhoes and boat anchors can tear up physical connections at any moment — and hackers, spammers and censorship-happy politicians can sabotage it just as often.

You can't fix the Internet. You can't prevent that damage and sabotage. But you can use monitoring to spot minor bottlenecks and major attacks. You can use redundancy to guarantee there's a path to the Internet even when your usual route is cut off. You can plan and react to reduce the impact of an outage to a fraction of what it would otherwise be.

You can do this. Like Martha Stewart's IT shop, you really can beat Internet sabotage.

And — as someone once said — that's a good thing. ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*

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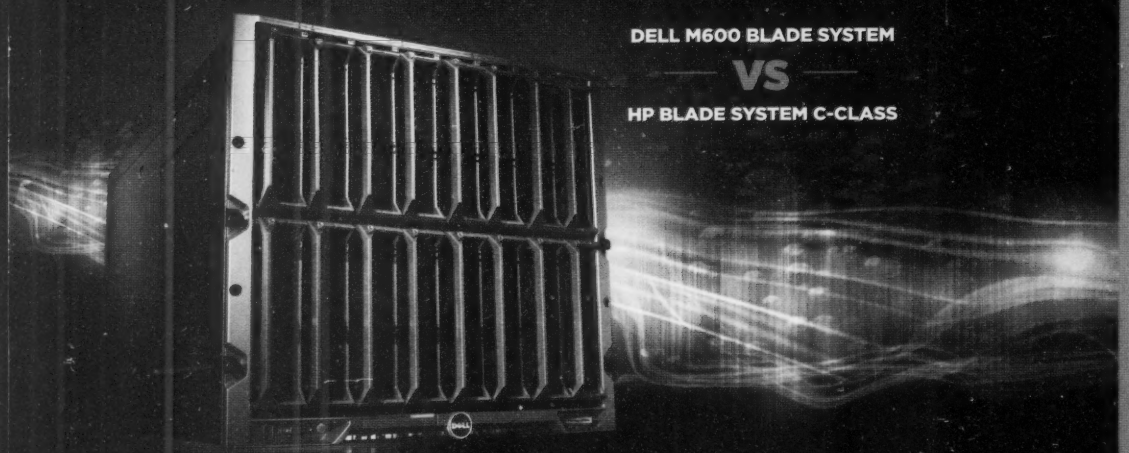

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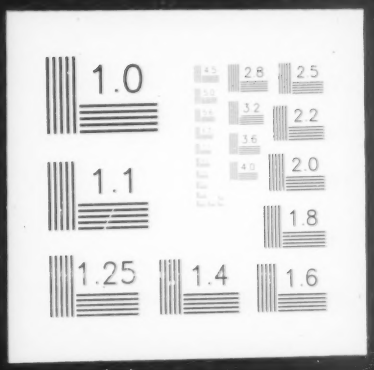
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